

# North Pickering Project

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## SUMMARY OF RECOMMENDED PLAN



Ministry of  
Housing

Ontario

August/1975



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North Pickering is being planned using, for the first time in Canadian experience, the Metric System. Throughout this report both metric (S.I.) and Imperial units are used. The following table of equivalents of the most common units is provided to assist the reader.

1 metre =	3.28 feet
1 square metre =	1.20 square yards
1 square metre =	10.76 square feet
1 kilometre =	0.62 miles
1 hectare =	2.47 acres

# Preface

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This report summarizes the Recommended Plan for North Pickering, a new community project initiated by the Province of Ontario on a 10,000 hectare (25,200 acre) site north-east of Metropolitan Toronto. It reflects studies by the North Pickering Project, Plantown Consultants Limited, and others into the physical, environmental, economic and social needs of a new community, and attempts to capture the aspirations of people who are likely to live there.

In order to preserve and enhance agriculture, the plan contains proposals for the long-term retention of a significant portion of the publicly-owned land on the site for farming.

This Recommended Plan will be presented to the North Pickering Development Corporation which will be responsible for planning, management and supervision of development under policies of the Government of Ontario.

The plan outlines the general principles for development and the broad pattern under which it will take place during the next 15 to 20 years. It provides a guide for planners to begin detailed design of an urban community for 75,000 persons and to determine the most effective way to utilize the agriculture resources.


Within this framework changes are likely to occur. To ensure that shifts in public attitudes and priorities are reflected in ongoing planning, monitoring and evaluation will be an integral part of the development process. Nevertheless, the plan has been formulated with a reasonable degree of con-

fidence that the basic principles will remain sound and workable.

The Recommended Plan evolved through an extensive public planning process. As important issues were identified, views of citizens from Metropolitan Toronto to Oshawa were sought and, where possible, were incorporated into the plan. This process directly affected decisions on population, the location and form of the urban community, and resulted in the positive program of preserving agricultural land.

Planning North Pickering has been an exciting challenge. Sensitive development of this new community should mean more than new houses. It should provide opportunities to create a community that responds positively to the cultural, social and recreational needs of its future residents. They should have an opportunity to mould a lifestyle that can be as unique as they wish to make it. Public participation, an important element of the initial planning, will become even more important in the future, while the town is being built.

The development of the new community requires the support of many diverse interests. The private sector, with its skills, experience, and entrepreneurship, must play a significant part in development. Co-operation will have to be sought from all who can contribute to developing the quality of life that is the challenge and opportunity of the new community at North Pickering.



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# Summary of Recommendations

The essence of the plan is the development of a comprehensively planned new community to achieve a careful balance of housing, employment and social facilities within a rigorously controlled physical framework. The Recommended Plan establishes three planning areas:

- An Urban Area on the east side of the site of approximately 2,700 hectares (6,800 acres).
- A Rural Area to the west on approximately 4,200 hectares (10,400 acres).
- An Open Space System of approximately 3,200 hectares (8,000 acres), including agricultural uses.

The recommended land uses in these areas are illustrated graphically on the opposite page.

## Urban Recommendations

### Population:

Approximately 75,000 persons.

### Density:

Approximately 33 dwelling units per net hectare (13 dwelling units per net acre) resulting in an average residential density of 105 persons per hectare (42 persons per acre).

### Employment:

To achieve a "live-work community" approximately 31,500 jobs should be provided. At least 50% of the resident labour force would be encouraged to work in the community.

Along with its commercial components, 440 hectares (1,100 acres) of land should be set aside for industry to generate 15,000 industrial jobs. In addition, approximately 17,000 service and retail jobs are proposed to match the employment needs of the population.

### Central Area:

A comprehensive Central Area is recommended on the eastern rim of the West Duffin Creek valley. Major components would include: shopping facilities, a community college; a hospital; regional transit interchange; hotels; offices; entertainment; housing for approximately 5,000 persons; and major recreational and cultural facilities.

### Secondary Centres:

Four secondary centres each serving the day-to-day needs of 15,000 to 20,000 people would be established. Each will provide facilities such as a supermarket, and convenience shops, a day care centre, a secondary school, a health clinic and recreation facilities. The Central Area would also include a derivative of a secondary centre.

### Neighbourhoods:

The basic residential component in the Recommended Plan is the neighbourhood of approximately 50 hectares

(130 acres) to accommodate 4,500 to 5,000 persons. There are 16 neighbourhoods in the plan.

### Housing:

More than 23,000 dwelling units are to be provided to serve people with a wide range of values, ages, preferences, life styles, and economic circumstances.

### Social Planning:

The plan contains proposals for a comprehensive social program based on variety, choice, access, flexibility and opportunities for social enrichment.

### Roads:

The urban road system is structured upon a basic grid of 1 Kilometre (approximately .6 mile) spacing. Major and minor arterials are alternated within the grid.

### Regional Transportation:

The future regional roads, Highway #407, the East Metro Freeway, and an improved Highway #7 are being studied by the provincial Ministry of Transportation and Communications. The recommended routes in this plan are designed to direct through traffic around the periphery of the site.

### Regional Transit:

A right of way for a future regional transit line has been provided within the new community, with provision for three stops.

### Local Transit:

A bus system is recommended to best respond to local transit needs. The proposals for public transit are based on the principle of decreasing reliance on private automobiles.

### Environment & Open Space:

The plan incorporates a comprehensive, interlocking network of open spaces to connect all recreational areas by a vehicle-free pathway system.

### Phasing:

Implementation is recommended in four stages:

Stage	Population (Cumulative)	Completion by
1	15,000	1981-82
2	30,000	1984-85
3	45,000	1986-87
4	75,000	1991-



# Rural Plan Recommendations

The Recommended Plan has divided agricultural lands into two categories to encourage the long-term use of the most productive soils on the site:

## Agriculture 1:

Existing viable farm uses should be encouraged to continue on a long-term basis.

## Agriculture 2:

Lands within this category should be encouraged to provide a diversified agricultural base.

## Hamlets:

Residents of Whitevale, Green River, Locust Hill, Cherrywood, Cherrywood East, Martins Subdivision and the social community of Cedar Grove should be encouraged to become involved in the economic, physical

and social planning of their hamlets. The hamlets should remain as compact rural units.

## Open Space System:

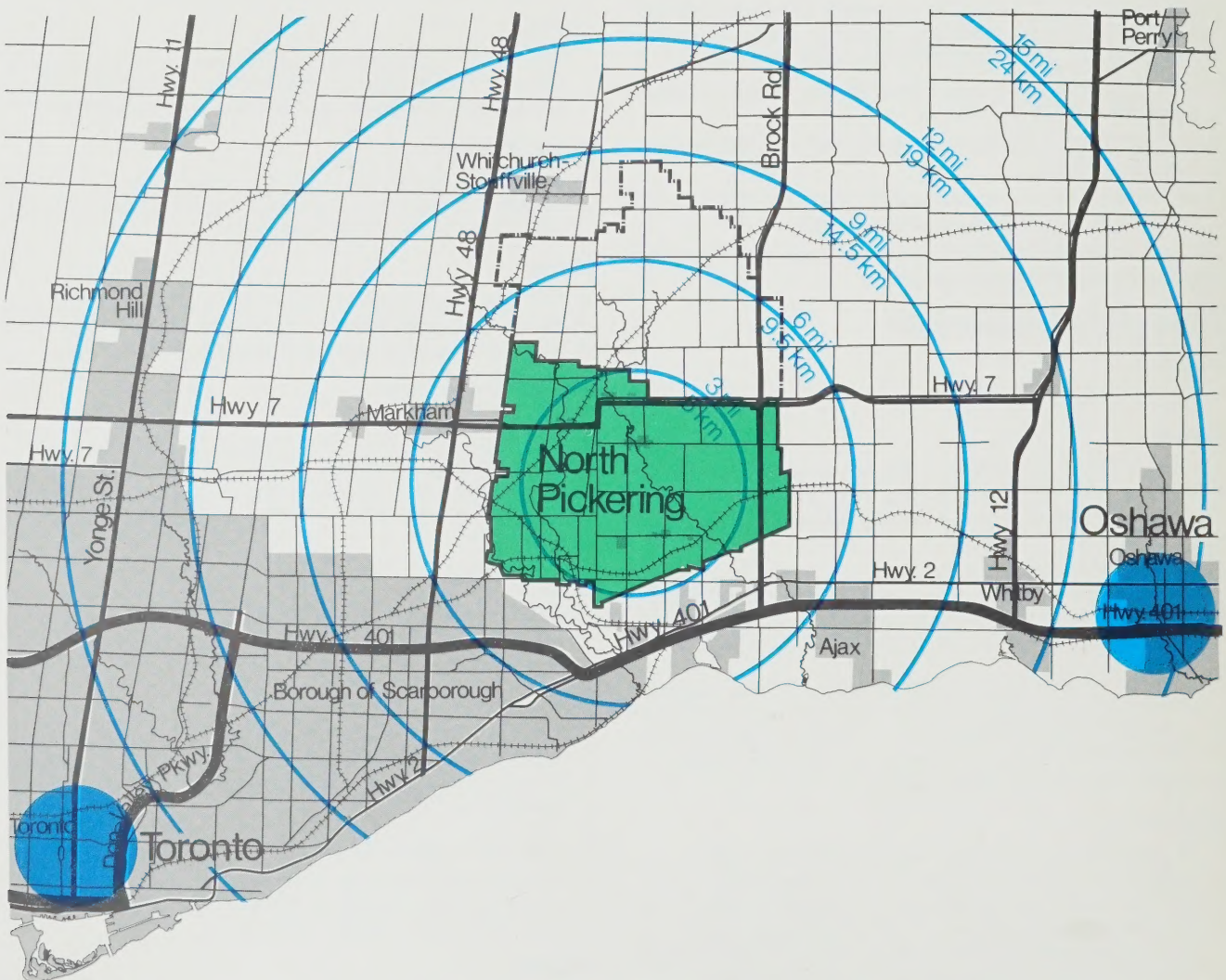
The Open Space System located along the western and southern boundary of the site may be incorporated into the Parkway Belt system east when the Belt is designated east of Highway #48.

Agricultural uses, particularly in the western section should be encouraged to remain. The Open Space System would provide a link to all recreation components within the site including the valley systems, the regional park and golf courses.

## Regional Park:

A major park on 800 hectares (2,000 acres) is proposed for the south-west corner of the Open Space System which would provide a complete range of recreational needs.

# Regional Location





# Background

North Pickering is a new community project to be developed by the North Pickering Development Corporation, a Crown Agency of the Province of Ontario. The plan is a first step in channelling development to the area east of Metropolitan Toronto within a provincial regional development strategy.

The Recommended Plan proposes urban development east of the West Duffin Creek for a population of 75,000. Measures are also proposed for long-term preservation and enhancement of the existing agricultural lands on the western portion of the site.

The Project Site is located approximately 30 Kms. (18 miles) north-east of central Toronto and 25 Kms. (15 miles) west of downtown Oshawa. It is situated within three local and three regional municipal jurisdictions: the Town of Pickering within the Regional Municipality of Durham; the Town of Markham in the Regional Municipality of York; and the Borough of Scarborough in Metropolitan Toronto. The major portion of the site is located in the Town of Pickering.

## A New Community in North Pickering

The Government of Ontario announced the project on March 2, 1972 as part of a joint statement with the Government of Canada on the location of a new International Airport for the Toronto Region.

The joint announcement was the result of several streams of activity at the Provincial and Federal levels. These included ongoing studies by the Province to develop action programs to implement the Toronto-Centred Region Concept; investigation by the Federal Government on the most appropriate location for a new Toronto International Airport; and increasing recognition that the establishment of new communities, through governmental initiative, is an effective means of resolving some of the problems associated with unstructured growth.

Initially it was proposed that the community would have a population of between 150,000 and 200,000 persons by the turn of the century. However, a new approach to planning for North Pickering was initiated by the Minister of Housing in January, 1974. It required that the target population of the urban area of the new community would be established through a participative planning process rather than being fixed at the outset. On the west and south periphery of the site, 3200 hectares (8,000 acres) were set aside for an Open Space System. If warranted by further planning considerations, additional lands could be set aside for open space and agricultural uses within the remainder of the planning area.

The existing hamlets of Whitevale, Locust Hill, Cherrywood, Cherrywood East and Martins Subdivision would be preserved, enhanced, and integrated into the total design for North Pickering. (A subsequent decision was made to preserve the hamlet of Green River).

## Minister's Orders

Temporary Minister's Orders under the Planning Act were applied to provide development control throughout the entire North Pickering area until the principles and objectives of the Plan for North Pickering are incorporated in the Official Plans of the municipalities having jurisdiction in North Pickering.

## The Toronto-Centred Region Concept

The rationale for the new community is based on a considerable legacy of studies, plans, Provincial policies and programs. In the 1960's several major developments took place, including two conferences on regional economic development; the Metropolitan Toronto and Region Transportation Study (MTARTS); and the Provincial Design for Development Program for regional planning.

On May 5, 1970, the Government of Ontario released "Design for Development: The Toronto-Centred Region". It defined an 8,600 square mile region extending from Hamilton/Brantford in the west to the Georgian Bay area in the north, and beyond Port Hope/Cobourg in the east.

Three zones were established, each reflecting different problems and priorities, as well as different degrees of policy emphasis. These ranged from those relating to highly-structured urban development (Zone 1), modest urban growth within an agricultural, recreational and open space setting (Zone 2), to selective peripheral development (Zone 3).

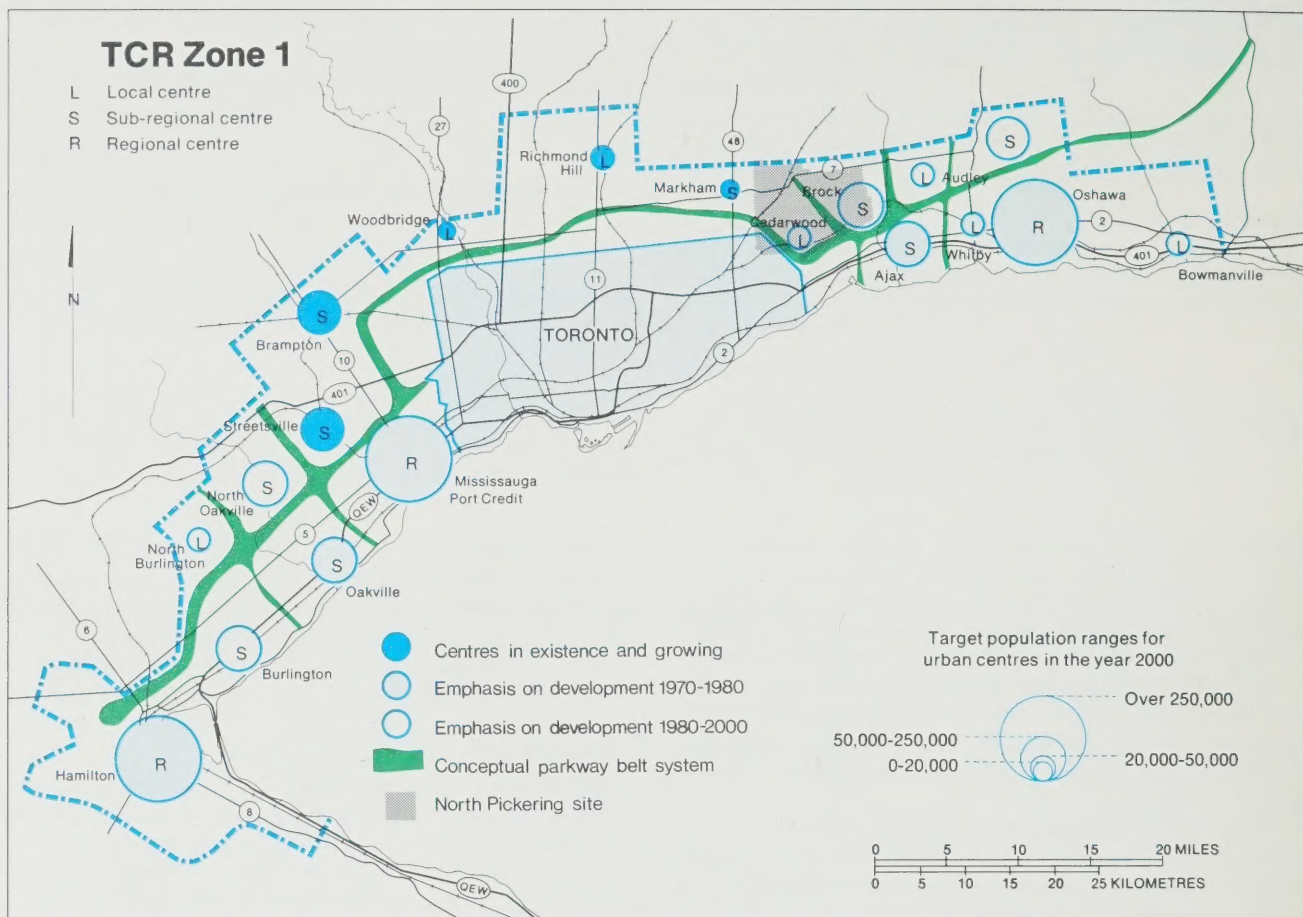
The lakeshore urbanized area (Zone 1) was to consist of two tiers of urban centres, each differentiated by role, size, and growth rate but tightly integrated through social, transportation, and economic links. Hamilton on the west and Oshawa on the east were indicated as the regional terminal cities.

An important element in Zone 1 was the Parkway Belt System that would contain transportation and service corridors, provide a network of agricultural and recreational uses, and act as a separator between urban centres. The Parkway Belt has now been defined from Dundas to Highway 48 at Markham, and a draft plan has been produced for public scrutiny. The eastward portion to Oshawa/Bowmanville has not yet been finalized.

## The Oshawa Sub-region

A major element of the concept for the lakeshore urban area was to encourage growth to the east of Metropolitan Toronto where Oshawa has been designated as the regional centre. Shifting growth to this area would help balance urbanization with the region west of Metro; help diversify and strengthen the economic base of the Oshawa sub-region; provide some relief for the highly-developed Metropolitan Toronto and western lakeshore areas; and enhance the diversity of choice





for residential and employment opportunities within the entire region.

In this 1970 Concept, the development of four new communities was proposed above existing lakeshore communities east of Metropolitan Toronto. "Cedarwood", with a projected population of 40,000 to 75,000 (Aug. 1971) and "Brock", with a population between 50,000 and 250,000 were to be developed north-east of Metropolitan Toronto. The other two would be located north and east of Whitby and Oshawa.

#### Implementation of the TCR Plan

The Federal Government's decision to proceed with development of an airport in Pickering prompted two fundamental changes in this approach. The first related to timing: development of the new communities, slated to start in the 1980's, was advanced to the 1970's. Secondly, because the proposed "Brock" community would be affected by airport noise, "Brock" and "Cedarwood" were combined into the North Pickering Project.

The process of refining the entire TCR Plan is also underway, with a number of measures already implemented. In addition to the North Pickering Project, they include major legislative action such as The Parkway Belt Act, The Niagara Escarpment Act, and The Ontario Planning and Development Act.

In 1973, the Province instituted a special Task Force to refine that portion of the TCR Plan which dealt with the lakeshore area. The study area for the Task Force was called the Central Ontario Lakeshore Urban Complex (COLUC) and approximates Zone 1 of the TCR plan. Staff representatives of Metropolitan Toronto, and the Regions of Hamilton-Wentworth, Peel, Halton, York and Durham joined Provincial officials in undertaking this task. The report of the COLUC Task Force was published in December, 1974.

#### North Pickering — A Provincial Responsibility

The size and complexity of the North Pickering Project underscores the need for overall provincial responsibility. At the jurisdictional level, only the Province is best equipped to co-ordinate the activities of the three regional and three local municipalities in which the site lies.

The Project offers the provincial Ministry of Housing, through the North Pickering Development Corporation, opportunity to develop new and innovative forms of housing as well as new and better ways of organizing urban services.

In co-operation with the Ministry of Agriculture and Food, the North Pickering Project has developed a positive plan to enhance and increase agricultural production in the planning area. This approach may well become a working model for the encouragement of mixed land uses in other areas of the



Province where development pressures threaten agricultural production.

## The Planning Process

### The Provincial Planning Team

With the announcement of the new community a Provincial planning team was established, linked to relevant ministries and agencies. The Project Team includes co-ordinators responsible for the community design; public participation; agricultural planning; environmental planning; economic planning; social planning; transportation planning; utility services and communications planning; and municipal government and finance.

### Plantown Consultants Limited

At the end of 1972, 13 consulting firms or groups of firms were invited to submit proposals to assist in preparing a Plan for North Pickering. This led to the selection of Plantown Consultants Limited, a consortium of four Canadian planning and engineering firms associated with nine other firms.

An important and innovative characteristic of the Project/Plantown approach was the joint relationship of the public and private sector in the formulation of this Recommended Plan.

### Public Involvement in Planning

An essential element in formulating the Recommended Plan was to involve the public so that planning would be responsive to public concerns. The Project team encouraged participation of individuals, agencies, and citizen groups who have, or will have, an interest in the future development of the new community.

The public planning process involved site residents, citizens in the region from Oshawa to Toronto, councils and staff of affected municipalities, and groups interested in specific planning areas such as economics, environment, social development, transportation and agriculture. Upon entering the final phase of planning, more than 1,200 citizens had formally registered interest in the planning process. Verbal and written public input was extensive.

The public response, together with technical comments of provincial, municipal, federal and private agencies, was incorporated into the evaluation process in each phase of planning.

### The Four-Phase Planning Process

The plan formulation process consisted of four phases:

- I Basis for the Plan.
- II Generating alternative concept plans to determine population size and general form.
- III Elaboration of favoured plans; selection of final alternative plan.
- IV Detailing of final alternative plan.

#### Phase I (Summer 1973 — Winter 1973)

This phase consisted of background research to define the social, economic, and environmental factors that would influence the Plan for North Pickering and the nature of the changes that might be expected in the future.

In the social area, studies concentrated on contemporary society and the way in which value systems and life styles are likely to change.

Economic studies focused on the prospects for generating a diverse employment base in North Pickering. Particular attention was directed to determining the types of employment and business activities that would be compatible and

complementary with those within the Region of Durham.

Environmental and physical studies involved diverse avenues of investigation. Natural and human-made characteristics of the site were examined to provide a composite picture of the factors that influence development potential. These characteristics provided the Project team with an approach to planning that would take the fullest possible advantage of existing ecological and environmental systems.

Existing and proposed regional transportation, utilities, and communications networks were documented along with current and emerging state of the art with respect to technological innovation.

New town experience elsewhere was evaluated to determine which features would be relevant to North Pickering. Special attention was devoted to housing, shopping, open space and urban form to establish physical design features that would be most appropriate to a variety of anticipated changes in human needs, life styles, and emerging technology.

From these studies, a series of Background Papers were published, and have been made available for public review.

#### Phase II (Spring, 1974 — Fall, 1974)

In order to gain public reaction to issues relating to the new community's size and form, twelve preliminary alternative concepts were prepared. These illustrated a range of sizes and forms, and outlined population alternatives from 25,000 to 225,000 persons.

The public indicated a preference for a population level of between 65,000 and 85,000 persons and a desire to retain the maximum amount of land for agriculture.

Technical studies revealed that a population level of 70,000 to 90,000 would be needed to sustain a multi-purpose downtown, reasonable social and cultural facilities and services, a diverse employment base, and viable public transit, all of which are necessary if the development is to be a "new community" consistent with the TCR Plan.

#### Phase III (Fall, 1974 — Winter, 1974/75)

Results of the Phase II review generated three Modified Concept Plans, each relating to a population level of 70,000 to 90,000. Modified Plan 1 located urban development east of the West Duffin Creek; Modified Plan 2 placed the urban area on the Petticoat Creek drainage basin on the westerly portion of the site; and Modified Plan 3 proposed urban development straddling the West Duffin Creek.

Two streams of activity followed: one consisted of a public review; the other involved a series of technical studies on the relative performance and flexibility of each concept.

The public review indicated quite clearly a preference for Plan 1. The technical evaluation revealed that this Plan had advantages with respect to minimal disruption of the existing social and agricultural fabric. It also maximized community identity by separating North Pickering from Metro Toronto and aligning it with Regional Durham. It also had the added advantage of placing the entire urban community in one municipal jurisdiction.

#### Phase IV (Spring, 1975)

This phase entailed detailing of the Recommended Plan on the basis of guidelines which evolved out of Phase III. The guidelines provided:

- The establishment of two distinct areas: an urban area on the east or Oshawa side of the site, and agriculture on the west.







# Development Base

This section deals with physical, environmental and historic factors underlying the planning considerations for the new community.

## The Site

### Topography

The site contains a remarkably diverse and attractive landscape, and generally presents no major constraints to urban development nor to continued agricultural use. The topography is gently rolling and slopes gradually from northwest to southeast. One of the most dramatic elements is the West Duffin Creek valley which cuts diagonally across the site in a north-west to south-east direction. The valley has substantial width and steep, high walls from the centre of the site southward. The flattest land is located to the west of the valley, while to the east the terrain is more undulating.

An escarpment crossing the southern part of the site in an east-west direction marks the old Lake Iroquois shoreline.

### Streams

The area is well-drained and served by four catchment areas, each with a dominant stream. The most significant are the Little Rouge Creek, the tributaries of the Petticoat Creek, West Duffin Creek and its tributaries, and the tributaries of the Duffin Creek.

The main streams are fed by natural runoff from agricultural lands and natural ground seepage. Due to the rural character of these watersheds, extensive contamination has not yet occurred. However, the use of high-yield fertilizers in the area tends to deteriorate water quality.

### Woodlands

Because the site is located in a transitional forest area, plant, bird and animal life is rich and diversified. Outside of the creek systems, woodlots are characterized by upland maple-beech-oak systems. Hedgrows are abundant and many woodlots are still maintained.

### Past Settlement

The earliest inhabitants were the early Ontario Iroquois Indians who settled the area between 1000 and 1300 A.D. Between 1400 and 1650 A.D. the late Ontario Iroquois settled in the Rouge and Little Rouge watersheds.

Mennonite farmers from Pennsylvania settled in the Markham area between 1796 and 1812. After 1816, English, Scottish, Welsh and Irish immigrants settled in the area. Until 1870, intense farming was carried out, but after this time rural depopulation began as people moved into urban areas.

Rural life evolved around villages and hamlets. Whitevale,

Green River, Locust Hill, Cherrywood and the Cedar Grove area still remain.

### Architectural and Historical Evaluation of Buildings

A survey of buildings on the site revealed that 103 structures were of architectural and historical significance. Of these, 19 buildings warrant preservation preferably in their existing locations, while 40 to 50 others of lesser importance should be preserved in their present location, or by moving to alternative sites.

Most of these structures are in hamlets, particularly Whitevale. Other significant clusters are scattered along the Whitevale Road, (5th Concession) and in the Mennonite area at the intersection of Steeles Avenue and the Markham/Pickering Town Line.

The hamlet of Whitevale and structures along the 5th Concession east of this hamlet, represent a remarkable example of village and rural life of the 19th century Ontario. It is, therefore, recommended that sensitive planning be carried out in this area to preserve its unique character.

## The Open Space System

The 3200 hectare (8,000 acre) Open Space System on the west and south of the site is proposed as a buffer to separate North Pickering's agricultural and urban areas from surrounding development in Markham, Scarborough and Pickering. Like the rest of the Parkway Belt System, it should contain transportation and service corridors and provide agricultural and recreational uses.

The functions of this System are so similar to those of the Parkway Belt that it is recommended that it be incorporated into the proposals for Parkway Belt designation east of Markham.

## Existing and Proposed Development

### The New Toronto International Airport

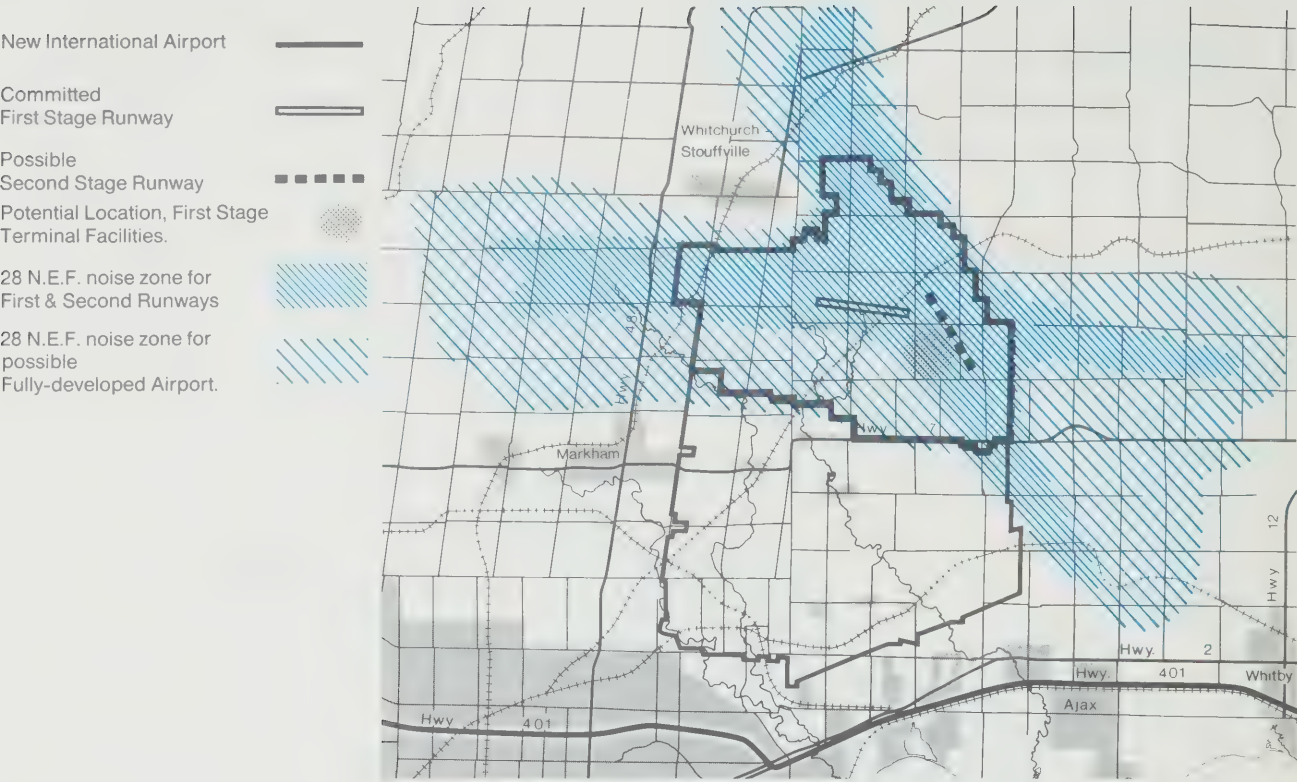
The site for the New Toronto International Airport, on approximately 7,300 hectares (18,000 acres) is located immediately north of the new community site. The Federal Government has announced its intention to develop a minimum facility international airport with one runway and passenger terminal facilities. It has been stated that the minimal airport would be operational to meet peak season requirements during 1979-80.

The single runway would be oriented in an east/west direction, 3,540 metres (11,600 feet) in length. It is anticipated that if a second runway were necessary, it will be constructed east of the first runway, in a northwest/southeast alignment.

One of the major concerns in planning the new community



# Airport Proposals



was to ensure that any potential environmental problems generated by the airport are minimized.

For example, the most current and sensitive noise measuring system, the Noise Exposure Forecast (NEF) was employed to assess aircraft noise impact. This system determines the noise value at a given point by totalling the noise energy generated by all aircraft, their operational characteristics, weight, power thrust during take off and landing, and the glide slope on approach to the airport.

From these calculations anticipated noise contours were produced. To provide maximum safeguards, residential land uses in the new community have been planned to avoid areas which would be subject to aircraft noise.

## Adjacent Development

Present development proposals in the Town of Pickering south of the North Pickering site include five major subdivisions that may be completed by 1978-79. Three are located north of Highway #2; one is located at the intersection of Brock Road and Highway #2; and the other is located south of Highway #401. They would add approximately 18,000 persons to the present population of the Town.

A regional commercial sub-centre has been designated north of and adjacent to Highway #401 at Liverpool Road and Highway #2 (Kingston Road) in the vicinity of Sheridan Mall. The centre will probably contain office and commercial uses; prestige industrial uses; recreational and social facilities; and higher density residential uses.

The Brock Industrial District, encompassing some 1,060 hectares (2,650 acres), and bounded by Highway #401 to the north, Duffin Creek to the east, Lake Ontario to the South and

the Bay Ridges Community to the west, is the primary industrial district in the Pickering urban area.

## Malvern

This new community, immediately south-west of North Pickering, is an Ontario Housing Corporation project. It will ultimately accommodate a population of approximately 57,000 persons on 700 hectares (1,700 acres) of land.

## Metropolitan Toronto Zoo

The new Metro Zoo, covering 290 hectares (700 acres), is located on the south-west boundary of the site. Opened in 1974, it is already established as one of Metro's main tourist attractions.

## Conservation Areas

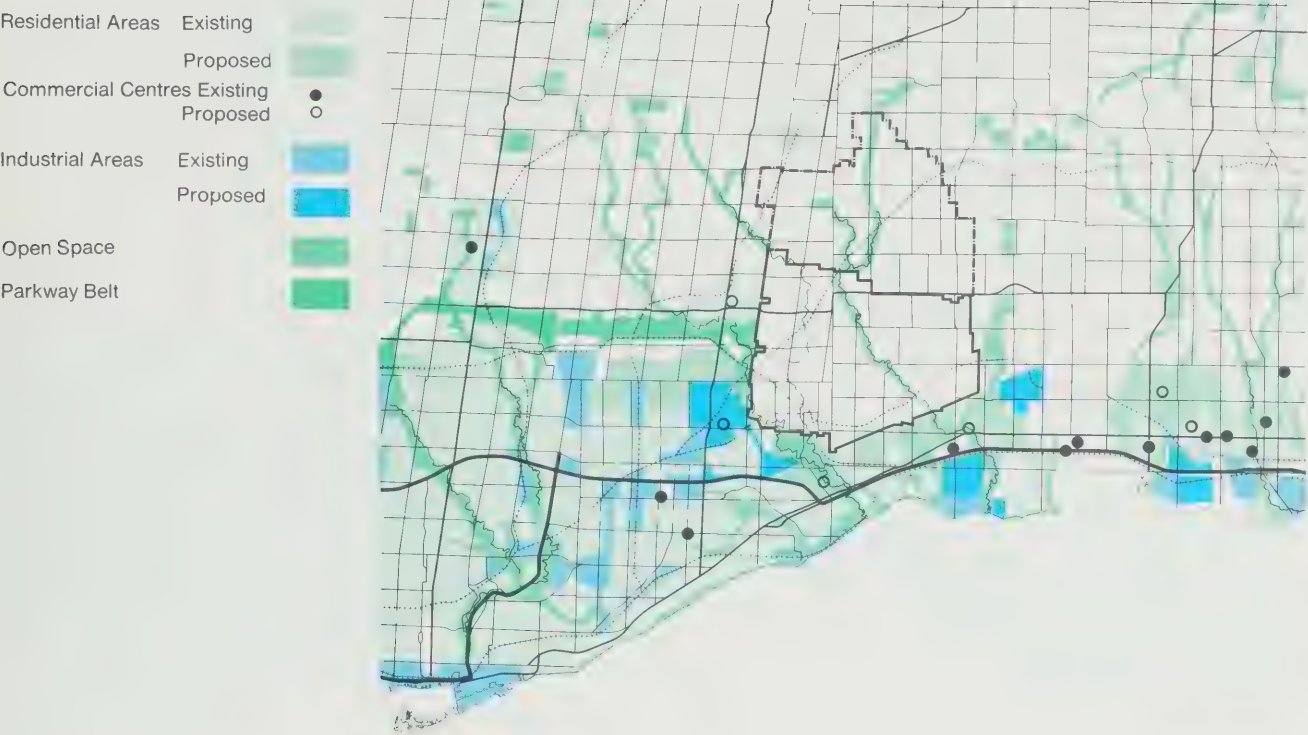
The Metropolitan Toronto and Region Conservation Authority (MTRCA) operates a number of conservation areas in close proximity to the site. They include: Milne on 120 hectares (290 acres) south of Markham; Greenwood directly to the east of the community on 300 hectares (750 acres) and Claremont to the north on 160 hectares (400 acres).

The Metropolitan Toronto and Region Conservation Authority is also acquiring land in the Rouge River Valley to complete a continuous open space network extending from the zoo to Lake Ontario.

The importance of each of the previously mentioned developments was recognized and great care has been taken in the formulation of this Recommended Plan to ensure that adverse impacts are minimized.



# Regional Land Uses



## Regional Services

### Sewage and Water Systems

The Province's Ministry of the Environment is presently developing a multi-regional servicing system. The York/Durham Water and Sewage System will provide services to 12 existing communities from Woodbridge to Ajax, and from the Metro Toronto fringe to Newmarket.

Scheduling of the sewage system calls for completion of the main trunk sewer from the proposed treatment plant to the east sub-trunk in North Pickering by late 1977; the balance of the trunk sewer to the western boundary of the site by mid-1978; and the sewage treatment plant by late 1979.

Storm drainage has generally been a local responsibility, with controls for major water courses imposed by the Metropolitan Toronto and Region Conservation Authority.

### Hydro System

The Pickering Nuclear Generating Station is located directly south of the site on the shore of Lake Ontario. Three transmission lines traverse the site connecting to the Cherrywood Transformer Station located in the southern part of the site. A new 500 kV hydro line has been proposed from Nanticoke on Lake Erie to the Cherrywood Transformer Station.

## Regional Transportation

### Roads

The main highway in the vicinity of the site is Hwy. #401 to the south which is being widened to six lanes. The other existing

major roads include Highways #2 and #7, and Brock Road. Highway #7 and Brock Road are presently two lanes, but widening to four lanes will be required within two or three years.

Two new highways, #407 and the East Metro Freeway, are being studied. They would serve the long-term regional and recreational transportation needs east and north of Metropolitan Toronto and relieve traffic pressures on Highway #401. While these highways will be constructed as part of the overall Ontario system, the new community will be able to take advantage of them.

### Highway #407

The Ministry of Transportation and Communications has initiated a route feasibility study for Highway #407 from Highway #48 to the junction of Highways #35 and #115.

The highway will pass through the northern part of the site on a 150 metre (500 ft.) right-of-way which will provide options for increased transportation needs.

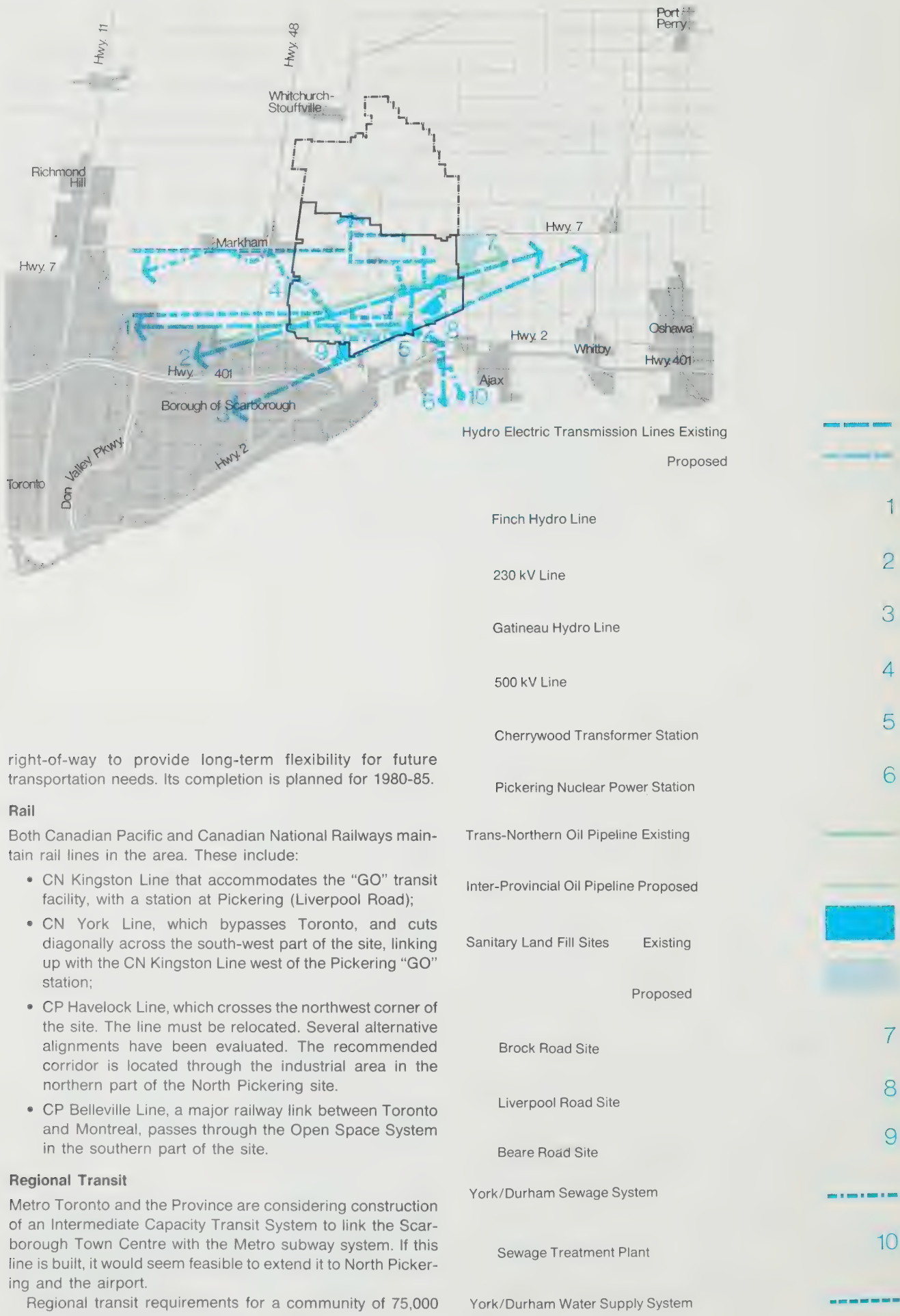
The recommended alignment of Highway #407 through the new community follows the present alignment of Highway #7. Highway #7 would then be relocated in the Plan to the south, through the middle of Concession 5.

### East Metro Freeway

The East Metro Freeway is in an early planning stage. Two broad corridors are under active consideration by the Ministry of Transportation and Communications. The Recommended Plan makes allowance for a corridor through the western part of the Open Space System.

The East Metro Freeway will require a 150 metre (500 ft.)

Regional Services



right-of-way to provide long-term flexibility for future transportation needs. Its completion is planned for 1980-85.

Rail

Both Canadian Pacific and Canadian National Railways maintain rail lines in the area. These include:

- CN Kingston Line that accommodates the "GO" transit facility, with a station at Pickering (Liverpool Road);
- CN York Line, which bypasses Toronto, and cuts diagonally across the south-west part of the site, linking up with the CN Kingston Line west of the Pickering "GO" station;
- CP Havelock Line, which crosses the northwest corner of the site. The line must be relocated. Several alternative alignments have been evaluated. The recommended corridor is located through the industrial area in the northern part of the North Pickering site.
- CP Belleville Line, a major railway link between Toronto and Montreal, passes through the Open Space System in the southern part of the site.

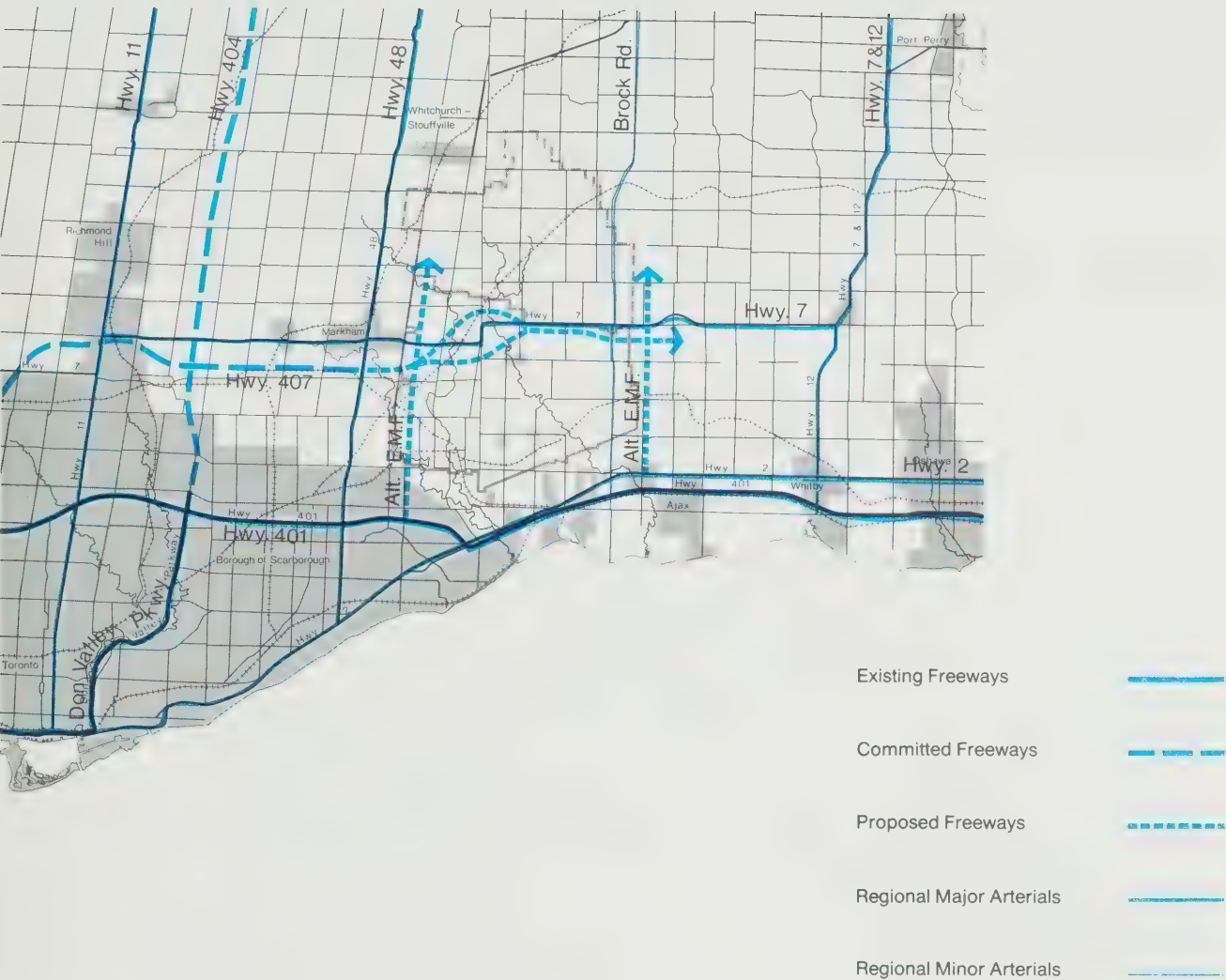
Regional Transit

Metro Toronto and the Province are considering construction of an Intermediate Capacity Transit System to link the Scarborough Town Centre with the Metro subway system. If this line is built, it would seem feasible to extend it to North Pickering and the airport.

Regional transit requirements for a community of 75,000



# Regional Roads



do not, by themselves, justify a high speed intermediate capacity transit system connection to Toronto's downtown. However, service through the new community could be justified if the Intermediate Capacity Transit System were designed to serve the airport and/or Oshawa.

More immediately, the Toronto Area Transit Operating Authority has plans to improve the Lakeshore "GO" transit service. This could provide an extra level of rail service, including an extension to Oshawa.

An Intermediate Capacity Transit System running through the community would offer a number of major advantages:

- 1) increases the potential to develop regional commerce such as North Pickering's Central Area by providing a direct link to Metro;
- 2) strengthens the economic links between the community and the airport because hotels, offices and other services could be located in the Central Area and yet be convenient to the airport terminal;
- 3) provides convenient transportation for residents of North Pickering to job opportunities outside the community and, alternatively offers residents in the region easier access to jobs within the community;
- 4) encourages the development of an efficient and more attractive internal transit system;
- 5) enhances the use of transit over private automobile for a significant number of external/internal trips.

A convenient Intermediate Capacity Transit System service to Metro Toronto will provide an effective transportation link



which some would argue will tend to emphasize Metro orientation. The dominance of Metropolitan Toronto in the entire region, however, cannot be refuted or prevented. Instead, realistic measures should be taken to ensure that overall commuting needs are reduced and are not all one-way. At the same time, the plans for the regional transit system should recognize that in order to achieve some of the goals of the Toronto-Centred Region Plan, they must provide an oppor-

tunity for linking North Pickering to the Region of Durham, including Oshawa.

The Central Area should have one stop serving as an integrated transit terminal and focus for the internal public transit service. Another stop should be provided at the industrial area in the north. A third stop could be located in the vicinity of the proposed Regional Park in the south-west corner of the site.

## Regional Transit



- Existing Subway System
- Existing "GO" Rail Service
- Existing "GO" Bus Service
- Existing Passenger Rail Service
- Committed Subway Extension
- Possible "GO" Rail Extension
- Possible Regional Rapid Transit
- Possible Express Bus Service.



# Economics

The new community must be one in which residents may conveniently choose to both live and work. This will lessen the need for long journeys to work, moderate future commuting pressures in the region and offer an opportunity for living in a self-sustaining community rather than in a suburban residential setting.

To achieve this goal it will be necessary to:

- Balance the number of jobs with the size of the labour force.
- Provide a wide range of job opportunities in office, professional and industrial employment.
- Encourage at least 50% of the new community's resident labour force to both live and work in North Pickering.
- Take advantage of, rather than be dominated by, the airport.

## Total Employment

Studies indicate that approximately 55% of the future population of North Pickering are likely to be of working age. Not all of these, however, would seek employment. Based on experience elsewhere, an estimate has been made that 76% of the working age population would participate in the work force. As a result, a population of 75,000 would generate an active labour force of 31,500 persons.

Studies of manufacturing indicate that the new community's location offers definite advantages. North Pickering falls within Metro Toronto's industrial market area. Given present trends, the total supply of industrial land likely to be available in the new community is equal to approximately one year's demand in the Toronto area.

In these circumstances, ability to market industrial land seems assured, and there is little doubt that sufficient manufacturing employment can be generated.

In fact, North Pickering's location is likely to be so attractive to secondary industry that particular industrial groupings, which it would be strategically desirable to locate in the eastern sub-region, have been identified. These include, food and beverage, rubber and plastics, wood industries, furniture and fixtures, paper and allied industries, printing and publishing, metal fabrication, machinery, transportation equipment, and miscellaneous manufacturing industries.

The recent federal government decision to proceed with an airport can only enhance the community's attractiveness as a location for secondary industry.

## Range of Employment Opportunities

While balancing the number of jobs with the size of the resident labour force appears to be attainable, providing a wide

range of job opportunities will be difficult. Primarily, this is due to the traditional concentration of office, technical and professional employment (a major component of service employment) in downtown Toronto. The difficulty of decentralizing this growing component of total employment from its traditional downtown Toronto location has not been underestimated. A special study was undertaken in co-operation with the Metropolitan Toronto Planning Department to analyse problems inherent in trying to achieve a better employment mix. Significant conclusions of the study were:

- Downtown Toronto will continue to be the single most attractive location for offices in the Region.
- A definite potential exists for some of the large office users to consider transferring some of their functions to peripheral sites.
- The potential for a peripheral location appears to be greatest with newly established or diversifying firms.
- Possible candidates are insurance companies, data processing systems, research and development establishments, branches of international firms, regional sales offices, airport-related industries and some government functions.

If the airport were to develop as a maximum facility as originally proposed, service employment in North Pickering would be increased. The requirements for hotel, restaurant and convention facilities generated by the airport would support business and management services. If located within the community's Central Area, the presence of these facilities would not only increase service employment directly, but could attract additional professional and management jobs. A transit facility providing rapid access to downtown Toronto and the airport from the community would make it even more attractive for business and professional firms to locate in North Pickering.

## 50% "Live/Work" Objective

To ensure that the community is a "live/work" community, at least 50% of the resident labour force should live and work in North Pickering. This objective appears reasonable, although it may be ambitious in light of the high commuting rate within the Central Ontario Lakeshore Urban Complex (COLUC). An examination of the distribution of housing and employment opportunities in the region, however, indicates that few urban places offer commensurate housing and jobs. Therefore, the high commuting rate may result from necessity.

No one can choose to live and work in the same community unless suitable housing and employment are available. Accordingly, the provision of housing must match the employ-

ment base. Therefore, in addition to providing housing in relation to the distribution of households of various sizes, attention must be paid to the income levels of the people employed in North Pickering. In order to ensure the match of housing and jobs, they should be provided simultaneously.

#### **Relation to Airport Employment**

Meeting the "live/work" goal for the new community is not dependent on airport development. The one runway airport, however, is likely to generate a demand for 400 to 500 hotel rooms for the convenience of passengers and flight crews. If this hotel were located within the new community it would provide employment for an additional 300 persons.

#### **Retail Potential**

To attain a degree of self-sufficiency, particularly for the Central Area, North Pickering must not be dependent on outside retail facilities. It also means that the community must reach an economically viable size as quickly as possible to ensure a strong identity for the Central Area.

A population of 75,000 will be able to support a major comparison shopping complex within the Central Area. Usually 100,000 people are required to sustain such a facility, but the new community will be able to support this scale of development provided the internal retail structure is soundly organized to give the main centre a strong economic foundation and impetus. The new community must also enjoy rapid growth, and the centre started as early as possible.



# Urban Design

## An Approach to the Urban Plan

It is impossible to plan a community that precisely matches the intricate and varied needs of the population because human relationships are too complex and changing. Therefore, the Recommended Plan has been developed on the principles of *convenience* and *choice* to allow flexibility and variety in its long-range implementation.

A review of community design over the past 30 years shows there has been a marked inclination to concentrate on convenience while virtually ignoring choice. Early British new town neighbourhoods, for example, while internally convenient were somewhat rigid. This tended to restrict residents to one neighbourhood centre. If another centre offered a better choice of services or facilities, it was not readily accessible.

The objective of providing choice can best be met by providing a high degree of access for residents in reaching employment centres, shopping facilities, and services. This implies a strong relationship between residential distribution, the locations of jobs, shopping and social facilities, and the design of the roads, public transportation and pedestrian network.

## Tri-Level Structure of Activities

The various levels of population served by, or required to support the different facilities required in a community was investigated. It was found that the levels or thresholds of population related to any service or institution alter in response to changing tastes, costs and values.

At the same time, the tendency of the institutions serving a similar number of people to locate together was examined. As a result of these studies, it was concluded that there were three identifiable — though by no means completely clear cut — thresholds around which the new community could be structured. It was noted that the economic viability of the different retail activities is an important aspect in this three-level grouping of development.

## Neighbourhoods

These primarily residential areas would house approximately 4,500 to 5,000 people. They would be bounded by arterial roads and cover approximately one square kilometre. Pedestrians would not have to cross major roads, and most pedestrian trips will take less than ten minutes.

Each neighbourhood should contain an elementary school and day care centre (probably adjacent to a local park). They will be served by a pedestrian walkway system.

In addition there would be a convenience or corner store located at a bus stop on a minor arterial road, where it intersects with the pedestrian walkway system. These shops

would cover 190 to 230 sq. metres (2,000-2,500 sq. ft.). The location on a bus route is an example of how choice can be increased for residents, by enabling them to go to any other centre if they wish.

When fully developed, the community would contain 16 neighbourhoods, each with the facilities described previously, and perhaps supplemented by other facilities to create a more identifiable, comprehensive centre.

## Secondary Centres

Secondary centres are one of the most significant elements of the community structure proposed in the Recommended Plan. They are designed to be the focal point for many of the day-to-day needs of the 15,000 to 20,000 people they serve.

The centres would be located at the intersections of major and minor arterial roads, and would have high access to both through and local traffic. The high level of access provides convenience and choice, enabling residents to use the Central Area as well as other secondary centres.

The centres would also be accessible from pedestrian walkways, enabling residents to reach a centre in a 10 to 15 minute walk.

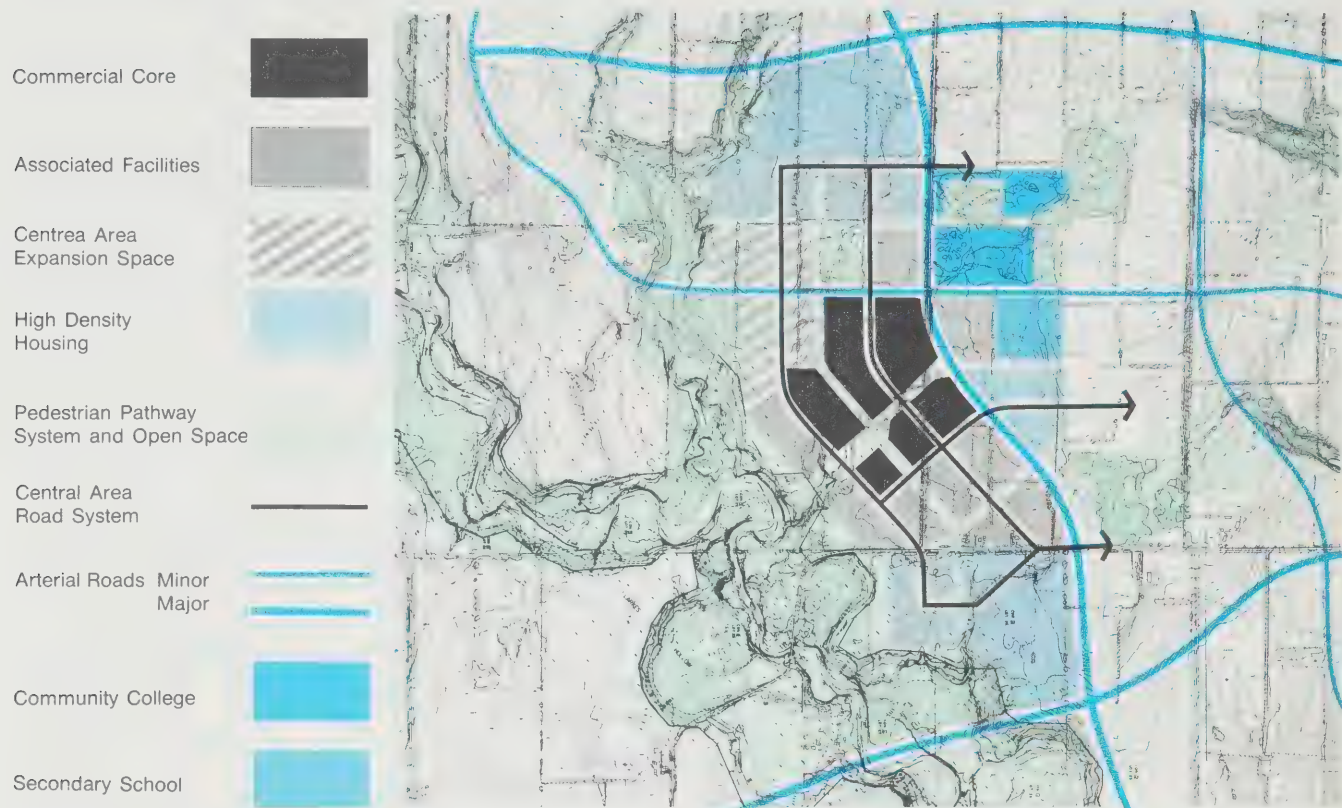
Each secondary centre would contain facilities such as a community health clinic, indoor and outdoor recreation facility, secondary school, business and social services, churches, post office, police sub station and higher density housing. There would also be a food supermarket and convenience shops. Total retail space in each would be approximately 5,800 to 7,000 sq. metres (62,000 to 82,000 sq. ft.). The entire centre would cover approximately 24 hectares (60 acres) including a community park and open space, as well as parking facilities.

Five Secondary Centres are required to serve the urban area. The community is not, however, divided into five identical compartments, because a quasi-secondary centre is incorporated into the Central Area. Since one of the main objectives is to maximize choice, each Secondary Centre would have its own unique physical and economic character, conveniently accessible to a wider population than the 15,000 to 20,000 persons living immediately adjacent to it.

## Central Area

The Central Area is the “downtown” for North Pickering. It has been planned to accommodate the needs of the 75,000 residents. It is not seen as a major regional centre, drawing from an area beyond the North Pickering Community. Rather, it would be the focal point of North Pickering, serving as a centre for business, civic, shopping, social and cultural activity. In the mature state, it would contain housing for approximately 5,000 persons.

# Central Area Land Use Distribution



The Central Area is located on the east bank of the West Duffin Creek, overlooking its valley. It would be accessible by a major north-south arterial road on the east side, and by major east-west arterial roads on the north and south. The local transit service would focus on the downtown and would meet the regional Intermediate Capacity Transit System at its stop in the Central Area.

There would be a central core containing commercial, entertainment and hotel facilities. The core would also contain the major concentration of comparison shopping stores including, at maturity, a full-sized department store of approximately 11,150 sq.m. (120,000 sq.ft.) and a discount department store. Associated shops and services, including at least one supermarket raise total potential floor space to between 44,000 to 53,400 sq. metres (474,000 to 575,000 sq.ft.). This core would be approximately 760 metres (2,500 feet) long, a seven to eight minute walk.

Residential, commercial and office uses would extend the length of the Central Area which, overall, would be approximately 1500 metres (5,000 feet) long, taking 15 to 20 minutes to walk. It would cover approximately 100-120 hectares (250-300 acres).

Organization of car parking is one of the prime determinants of the overall form and layout. To keep the area required by this very large land-use to a minimum, it must be organized to ensure multi-use. While they must be in close proximity to the activities they serve, parking facilities must not be allowed to interrupt the main pedestrian system, nor to detract from visual amenity.

One of the single most important elements of the long-term quality and life-style of the Central Area is the network of open spaces. While surrounding structures may change over time, the open space network would provide a continuing frame of reference and a pleasant contrast.

Within the Central Area, access to the open space network would be through its central north-south development corridor. It would be shared by pedestrians, cyclists and local buses, but all private vehicular traffic would be excluded. Depending upon the nature of the development, entirely enclosed and continuous malls for pedestrians only could be developed.

The West Duffin valley would be visible along the length of the Central Area. In addition to pedestrian links, there would be many glimpses of the valley between buildings.

Along the valley edge itself, a continuous walkway and bicycle path would be created to connect various lookout points. Community facilities, including a community college, would be located adjacent to open space areas on the edge of the Central Area.

## Special Retail Areas

In addition to convenience shopping, an additional range of services will be required. These include auto dealerships, drive-in restaurants and building supply dealers, many of which fall into the "highway commercial" category. Sites for these types of outlets will be required in some selected areas along minor arterial roads and, to a lesser extent, clustered at major intersections in the urban area.

Service stations pose a special problem, and this will require special study. There is a tendency to fewer and larger outlets.

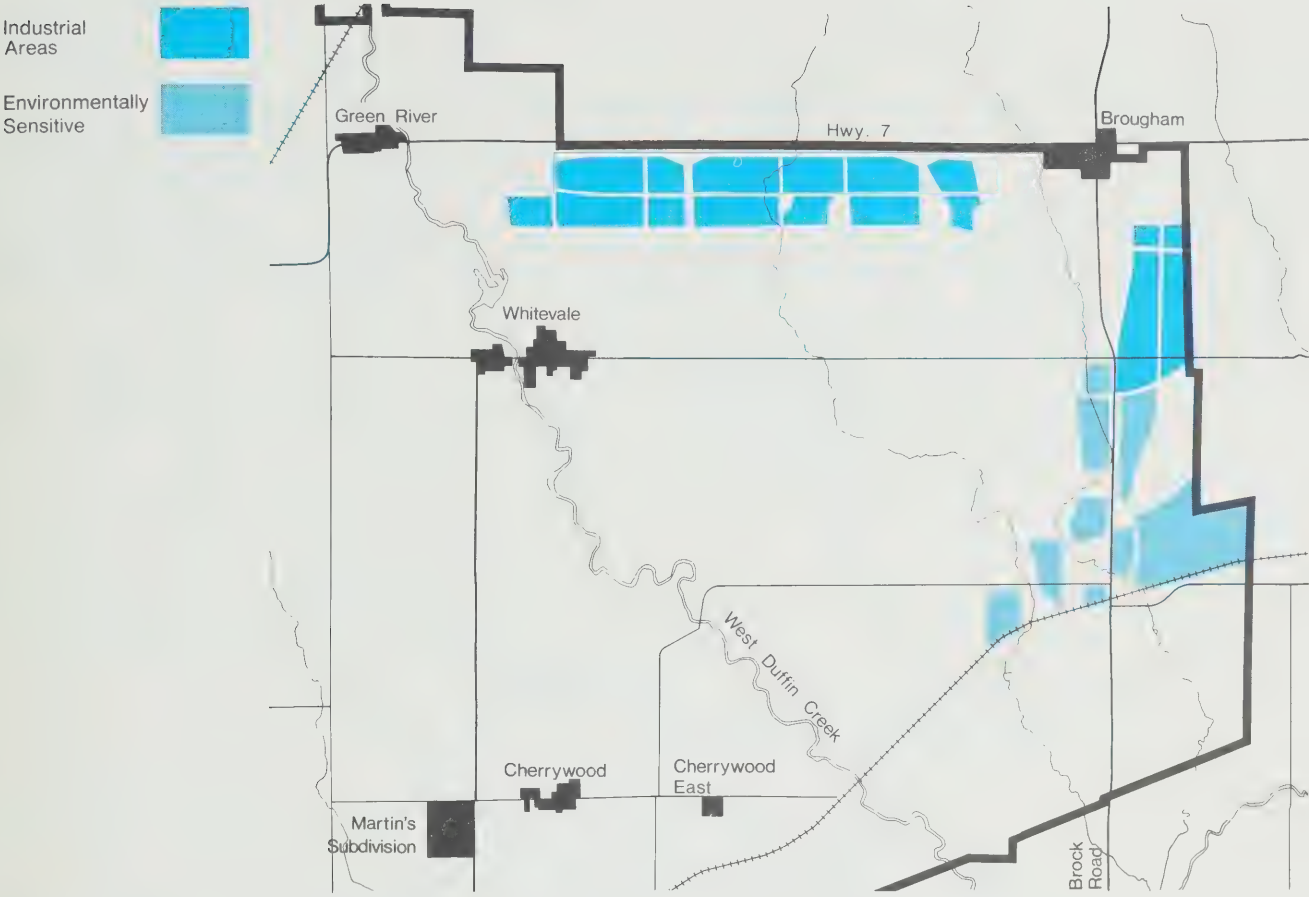
## Industrial Areas

The major industrial areas lie along the northern and eastern boundaries of the site. In total, these areas contain approximately 440 hectares (1,100 acres).

Part of the eastern industrial area is located in an environmentally sensitive area. Industrial development, par-



# Industrial Areas



ticularly in the southern section, should therefore be “custom tailored” to respect the environment. Prestigious industrial uses such as those found in the Don Mills area of Metro Toronto, are the type foreseen for this area.

Some of the industrial areas will be affected by aircraft noise if the new federal airport is expanded beyond the one runway minimum facility. Industry may be located in these areas without detriment.

The regional roads, particularly Brock Road and the present Highway 7, will initially serve the industrial areas. Later, Highway 407 will augment road capacity, particularly in the northern area.

Studies have indicated that only 10 to 20 per cent of industrial firms utilize rail services. The plan provides rail access to 40 to 50 per cent of the industrial area in order to allow for possible increased rail useage and greater locational flexibility. The relocated CPR Havelock Line, supplemented by a spur from the CPR Belleville Line, would provide that level of service.

The range of industrial parcel sizes that could be accommodated within the industrial areas is between two hectares (five acres) and 20 hectares (50 acres), broken down in the following proportions:

- (a) 2-4 hectares (5-10 acres) — 40% to 45%.
- (b) 4-8 hectares (10-20 acres) — 45% to 50%
- (c) 8 hectares (20 acres) and over — 10% to 15%

It appears that the most flexible layout can be achieved by initially planning industrial areas to accommodate an arrangement of smaller lots which can be combined to provide larger lots as required.

## Internal Transportation

The planned transportation network provides a permanent

framework which joins homes, industry, shops, and social services while remaining flexible to adapt to future changes in travel requirements.

## Roads

In assessing alternative road systems, particular attention was paid to the environmental impact, especially on the West Duffin Creek valley. For example, it was found that a few large capacity crossings of the West Duffin meant that excessive traffic would have been channelled through the urban community. A larger number of smaller crossing would be more costly and more damaging environmentally.

The initial computer modelling of the future regionally-orientated traffic flows indicated that three 4-6 lane arterial crossings of the West Duffin would be required for an urban community of 75,000 east of the valley to serve the in/out trips, and that four crossings would be required if the community ever expanded substantially.

Potential traffic generated by housing areas at various densities and the distribution of the land uses was analyzed in relation to the capacity of various road networks. The pattern which best serves the recommended distribution of the land uses in the community is a grid of four-lane roads spaced one kilometre apart.

The two-kilometre (1.2 miles) grid of major arterials of 4-6 lanes encompasses areas housing 15,000 to 20,000 people. There would be limited access to these roads, and on-street parking would not be permitted. The major arterials provide connections to the secondary centres and Central Area of the community, as well as the surrounding region.

The minor arterials are located approximately midway between the major arterials, resulting in a grid system of one kilometre spacing. The major arterials are designed for fast access to the external road system while the minor arterials

# Urban Road System



are designed to serve the internal needs of the community with slower speeds and more frequent access. The alternate location of major and minor arterials creates local housing areas free of arterial traffic and intersections where the secondary centres can easily be accessible.

Minor arterials would provide more direct access to adjacent land uses, and could have some on-street parking. This system of minor arterials primarily serves the internal road requirements of the community.

Within each neighbourhood, collector roads distribute traffic from the arterial roads to the residential, commercial, institutional and industrial roadways. These roads would be designed during the detailed planning of the area.

## Public Transit

Within the context of an overall transportation system, the purpose of public transit is to provide reliable, efficient, and convenient service, and to offer an attractive alternative to the use of private cars.

• A bus system best meets the criteria for North Pickering. It can be put into effect quickly; has the capacity to carry 4,000 passengers a day; can provide flexible routing; and by sharing road space with cars requires a lower capital cost.

## Internal Utilities Services

An important aspect of community design is the planning and provision of internal services — water, sewage, electricity and telecommunications — that knit the various segments of the community into a cohesive whole. Studies have covered a broad range of potential servicing needs and methods for fulfilling them.

Environmental considerations will lead to the adoption of innovative methods for handling storm drainage. Many of the concepts proposed are directly related to specific planning

criteria such as land use and densities, as well as broad questions of architectural and development controls, financing, design, construction and operation.

The urban area will be provided with water supply and fire protection. Sanitary sewage will be collected in gravity sewers. Telecommunications, electrical power and gas systems will be provided via underground conduits located within the road allowance. Street lights will be provided for all roads.

## Water Supply and Distribution

Major watermains will be routed along service corridors, and ground reservoirs will be located in parks or open space areas and landscaped for recreation use. A network of primary distribution mains will be provided on arterial and collector roads, while the secondary system will be placed in local roads or rights-of-way.

## Sanitary Sewerage

Within the community primary trunk services would follow natural drainage patterns along existing watercourses within open space areas. In several areas, pumping stations may be required to lift the sewage from a low level gravity system to a higher one.

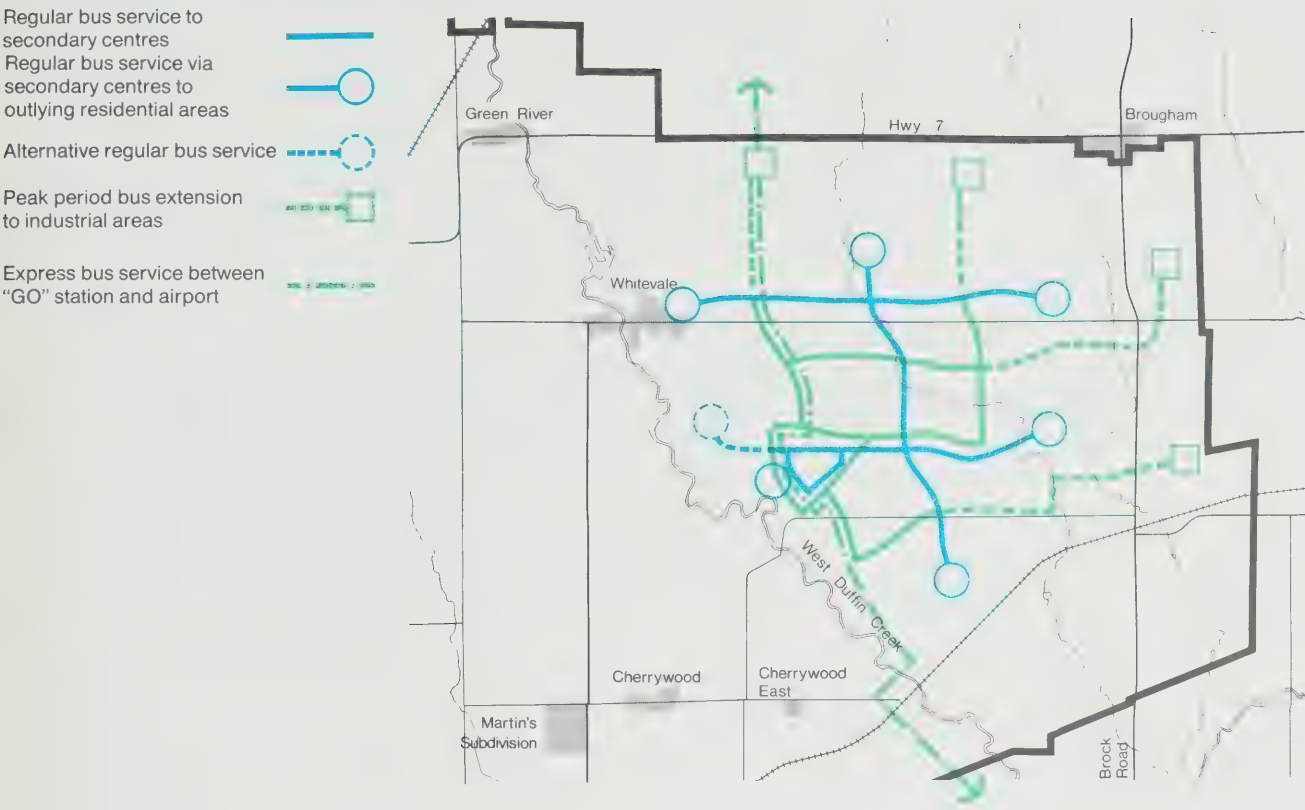
Industrial waste bylaws administered by the Region of Durham will encourage inplant treatment and recycling of liquid industrial wastes, reducing the load on the sewers and treatment plants.

## Storm Water Management

Urban development normally increases the quantity of storm water runoff, while decreasing quality. Studies have shown that impairment of stream quality and overloading in existing streams can be minimized. Coupled with the desire to preserve the natural environment and to establish a cold



# Internal Transit Routing System



water sports fishery in the Duffin Creek, several approaches to storm drainage have been proposed.

The storm runoff control methods recommended for the community are designed to reduce the rate and quantity of local runoff, by providing local, on-stream and regional retention storage.

Retention methods that would have application to the site include: off-stream ponding with artificial ponds developed to store and provide sedimentation for storm sewer discharge before flows enter natural watercourses, and on-stream storage using check dams to impound runoff in the stream valley.

## Telecommunications

The most desirable cable and telephone system for the new community would be one that would provide all services in a single integrated system. This would be unlike conventional telecommunications systems which rely on many separate organizations to meet requirements.

The possibility of establishing an integrated telecommunications system under the control of a North Pickering Telecommunications Authority should be explored with appropriate officials of telecommunications agencies, the Ontario Ministry of Transportation and Communications, and the Canadian Radio and Television Commission.

## Electrical Power Distribution

Electrical power distribution in the new community will take service from the provincial 230 kV electrical power transmission network located along the southern boundary. The voltage will be reduced through a new transformer station, probably located at Cherrywood.

The use of 34.5 kV phase-to-phase and 20kV phase-to-ground four wire distribution is being considered to eliminate the need for sub-transmission circuits and distribution stations.

## Energy Conservation

As a matter of policy, North Pickering is committed to the conservation of energy. Since awareness of a potential energy crisis has occurred only recently, national and provincial policies are still in a formative stage. Nevertheless, methods for conserving energy in North Pickering must be compatible with policies on the larger scale. There are a number of methods and systems which should be considered. They include:

*District heating*, which uses the waste heat from electrical power generating stations, to provide space heating. This concept of combined electrical generation and district heating has met with success in Europe and has been developed to an advanced state in many European cities. If the waste heat from the Pickering Nuclear Generating Station could be used, substantial economies and environmental advantages could be obtained by North Pickering. It is expected that the results of a study on district heating being carried out by the Ministry of Energy and Ontario Hydro will be completed by the end of 1975. This would be complemented by an overall systems approach at North Pickering to consider the implications for various sub-systems such as: district cooling, solid waste management, electrical power supply, utilities co-ordination, building design and layout.

## Pilot Project Research

The new community offers an excellent opportunity to establish, monitor and evaluate many new approaches to services on a pilot scale. Research should be encouraged to use the project for pilot studies. A number of subjects warrant study in the early stages of development, and if successful, could be applied in future stages. These include telecommunications, storm and water management, and centralized meter reading.

Recreation Lands

A continuous network of parkland, recreation areas and other forms of open space should link the main areas of activities. A system of pathways for pedestrians and cyclists would be provided in a manner similar to the road and transit routes. The valleys of the West Duffin Creek would form part of this network. A main hiking trail will be developed along the West Duffin Valley, with picnic areas at either end. East-west open space corridors would be developed to complement the valley lands. Throughout, water courses, wooded areas and other existing natural features would, where possible, be retained and enhanced for open space uses.

Within the local housing areas there would be neighbourhood parks, often located adjacent to the elementary schools. They would cover about 3 hectares (8 acres) and be supplemented by tot lots, walkways and amenity areas.

Within each district served by a secondary centre, major community parks would be provided for intensive outdoor sports and recreational sports and recreational uses. These parks would cover approximately 20 hectares (50 acres) each, and would be adjacent to the secondary schools.

The Metropolitan Toronto and Region Conservation Authority have been considering construction of a dam on the West Duffin Creek as part of their flood control programme. If MTRCA were to proceed with the dam, the location recommended by the North Pickering Project is immediately south of Clarke's Hollow, approximately in line with the Lake Iroquois Escarpment. The lake created by the dam could be used for swimming, boating and fishing.

There are two 18-hole golf courses in the North Pickering area: Whitevale and Pickering. Expansion of the Pickering golf course to 36 holes is recommended.

Other major recreational facilities to serve the new community include a sports complex, botanical gardens, and an amphitheatre.

Regional Park

A major regional park of approximately 800 hectares (2,000 acres) is proposed for the south-west corner of the site in the Open Space System, north of the Metro Zoo.

The area includes diverse landscape and topography, including valley lands of the Little Rouge and Rouge Rivers and the generally flat tableland between them. This tableland is mostly pasture.

Major components within the the regional park would include a family camping area of 80-120 hectares (200-300 acres), an outdoor education centre, an equestrian centre and a range of playing fields for such sports as baseball, football and soccer.

In addition to the proposed Regional Park, the Open Space System would also incorporate trails for hiking, horse riding and cycling, linking recreational uses within the area.

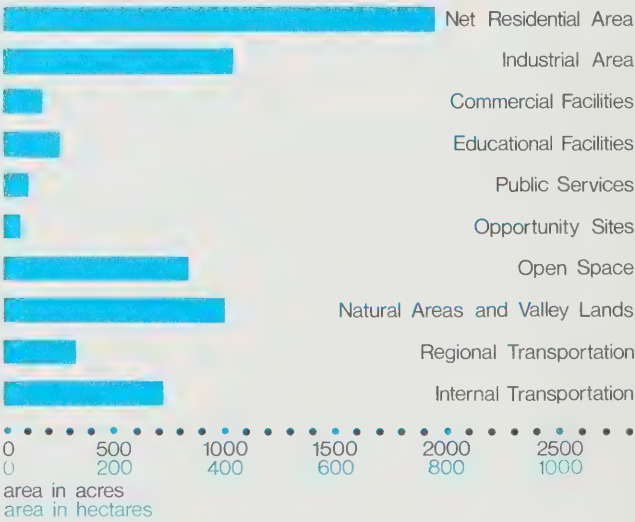
Adjacent recreational uses to the south include the Metro Zoo and the Beare Road Landfill site that will ultimately become a ski centre.

Environmental Management

Throughout the planning of North Pickering, strong emphasis has been placed on the need to minimize adverse environmental impact while adopting measures to enhance positive factors. This concern for environmental preservation and enhancement should continue throughout development. Efforts should be made to protect prominent and unique landscape features; to preserve and enhance existing vegetation, to provide slope stability, hydrological control and recreational potential; to achieve water quality levels that will sustain sports water fishing; and to preserve the unique cultural and historical features of the area.

In this context, building setback requirements should be proposed to protect valley lands and stream beds. During construction, efforts should be made to control storm runoff and erosion. Woodlots should be protected and programs developed to encourage an urban forestry program. In many cases, the water courses and woodlands should be used as focal points for recreational lands and community open space.

Land Requirements





# Urban Phasing

The implementation of the Recommended Plan has been structured into four development stages based on increments of 15,000 to 20,000 people, roughly the population served by a secondary centre.

If initial housing is to be built by late 1977 construction of services must begin in the spring of 1976.

The proposed implementation schedule has been staged over 15 years:

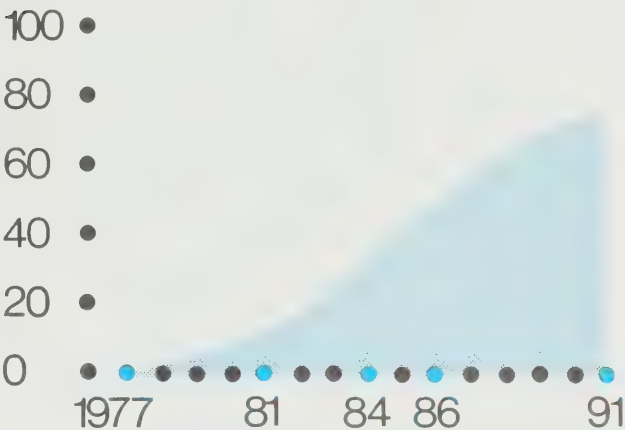
	<i>Population (Cumulative)</i>	<i>Completion by</i>
Stage One	15,000	1981-82
Stage Two	30,000	1984-85
Stage Three	45,000	1986-87
Stage Four	75,000	1991-

To build a community of 75,000 by 1991 will require an average rate of construction of 1,500 to 1,600 dwelling units a year for 15 years, with a peak rate of 2,000 to 2,500 units per year. This is an optimistic but attainable rate, and is proposed for three reasons.

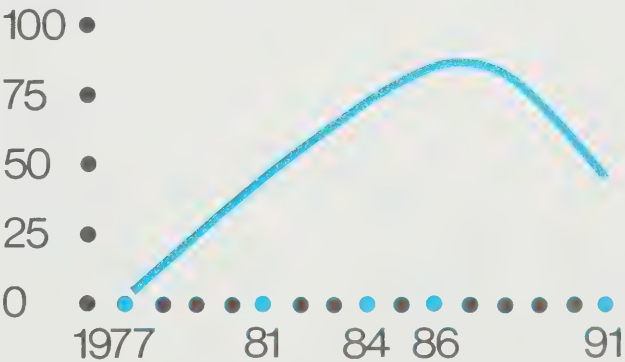
- 1) The demand for housing in the greater Toronto area, is approximately 20,000 dwelling units a year. North Pickering can help meet the demand.
- 2) In order to create a comprehensive, balanced community a substantial population base must be established quickly to ensure that the economic activity generated by the community is not diverted to other centres. This should reduce commuting pressures.
- 3) Current interest rates make it necessary to recover land, servicing and development costs as quickly as possible. Otherwise, the debt burden could increase the cost of housing, restrict the quality of development, and inhibit the ability to provide facilities for social and community services.

## Development Pace

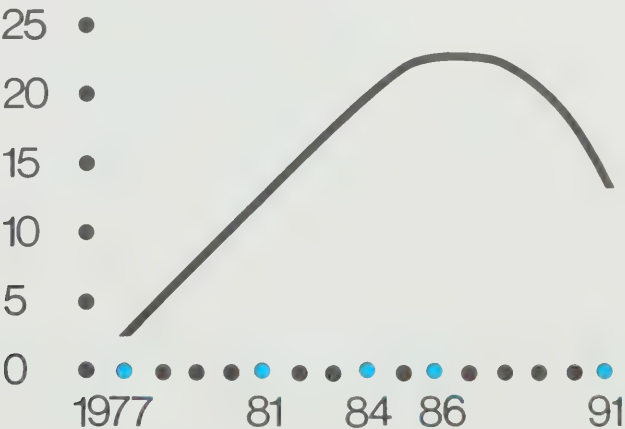
total persons x 1000



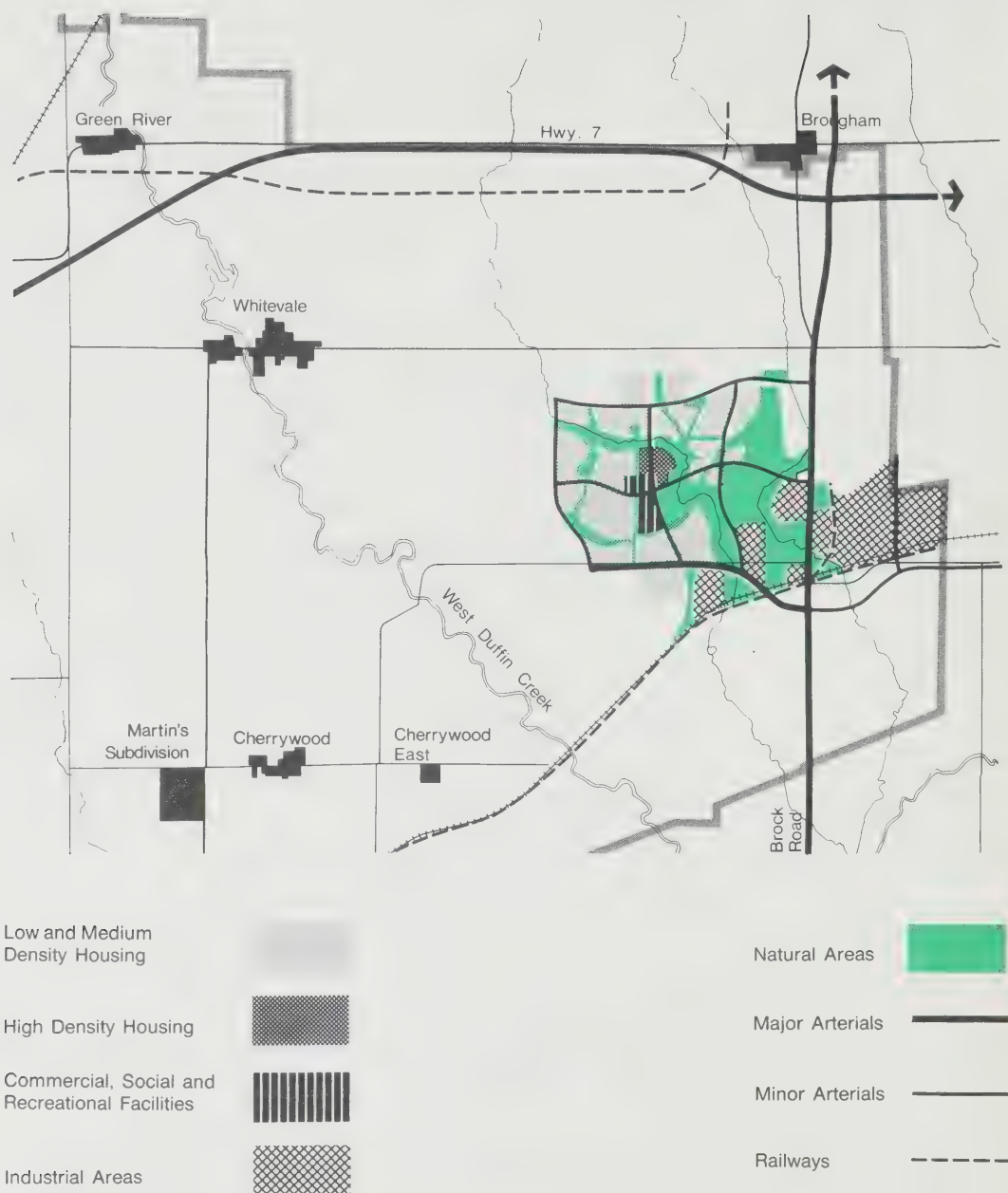
persons per year x 100



dwelling per year x 100



# Urban Stage One



## Stage One

The first stage of development is based on a secondary centre in the south-east corner of the site, with housing to the west of Brock Road and industry to the east. This location was chosen because Brock Road and the CPR Belleville Line already provide access and service. This area will also be the first to receive water and sewer services from the York/Durham Water and Sewage System, although alternative interim water and sewer services may be required for a short while until the planned services are completed.

This area, containing tributaries of the Duffin Creek, is an attractive one for housing. Initially, approximately 45% of the housing would be low density, 45% medium density, with 10% higher density located next to the secondary centre. Additional higher density housing could be added, once major town-wide services and facilities are developed in the Central Area.

Efforts would be made to establish the "live/work" balance from the beginning of development. The industrial land to be developed in this stage covers about 120 hectares (300 acres). Employment would reach a level of 3,000 jobs.

## Stage Two

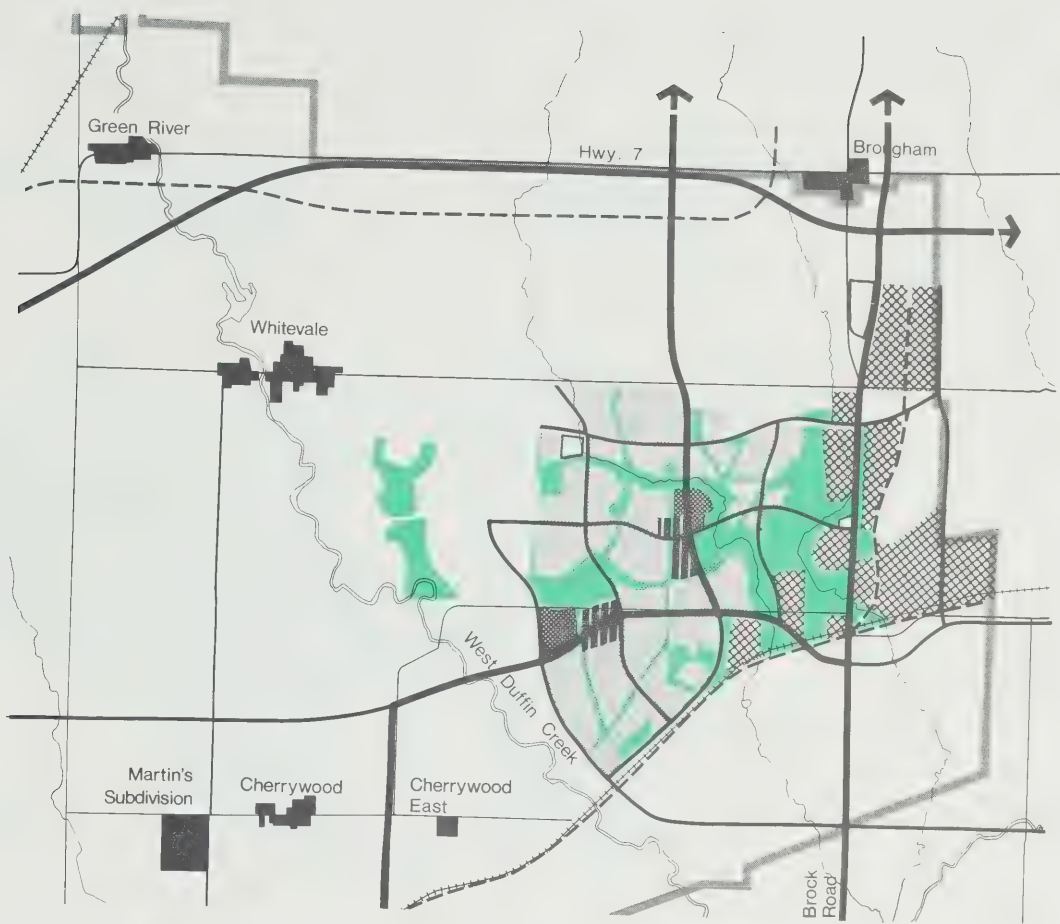
There are two options for the second stage. Either the southernmost area of the urban community could be developed in much the same way as Stage One, or the Central Area could be started together with a housing component.

In either instance the first road crossing of the West Duffin Creek would be required. This would carry Taunton Road (County Road #4) westerly to connect with Steeles Avenue. This road would be improved to four lanes east of Whites Road, but would be a 2-lane rural road from Whites Road to Markham's Ninth Line. Whites Road would be improved and extended south to Highway 401. A north-south 4-lane connection to Highway #7 is also recommended to relieve Brock Road. It would provide a direct connection from Highway 401 at Whites Road to the airport.

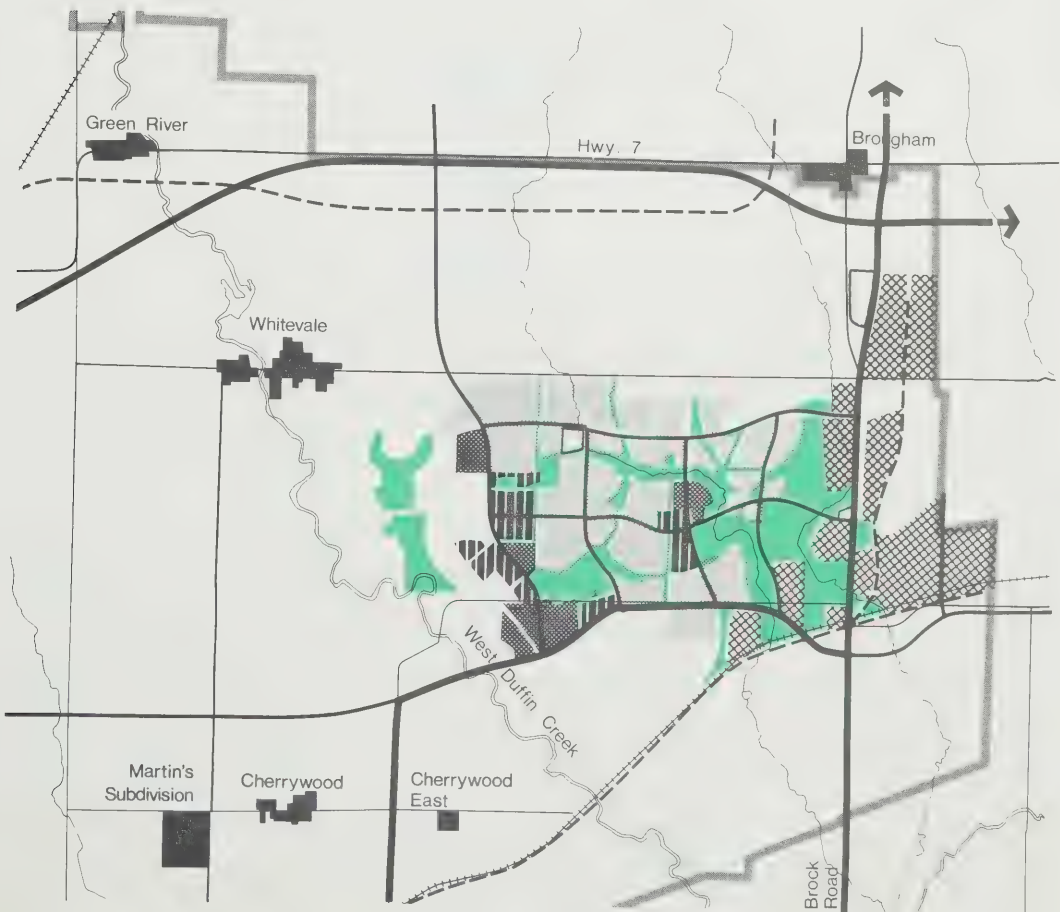
Industrial development in this stage would raise the total industrial area to 220 hectares (560 acres). Industrial employment would then total 6,000 jobs. The new industrial areas would be along Brock Road adjacent to the Stage One industrial lands.



Urban Stage Two: Alternative 1



Alternative 2



# Urban Stage Three: Alternative 1



Depending on which option is chosen, the mix of housing would differ. If the southern secondary centre were developed, the mix of housing would be roughly 45% low density, 45% medium density and 10% higher density. If the development begins in the Central Area, the housing mix, when combined with Stage One housing, would approximate a mix of 35% low density, 40% medium density and 25% higher density.

If development of the Central Area were to commence in Stage Two a junior department store and associated specialty shops could be developed along with such facilities as a movie theatre, library, offices, and the first phase of the community college.

## Stage Three

In this stage the population would reach 45,000. With the exception of industry, all development would be located south of Whitevale Road (5th Concession).

At this level of population, the community would require a second north-south major arterial road through the Central Area to Highway #7. The 2-lane section of the Taunton-

Steeles Road west of White's Road would need to be increased to four lanes.

The industrial lands then would total approximately 320 hectares (800 acres). Industrial employment would reach 9,000 jobs. Development of the northern industrial area would start in this stage.

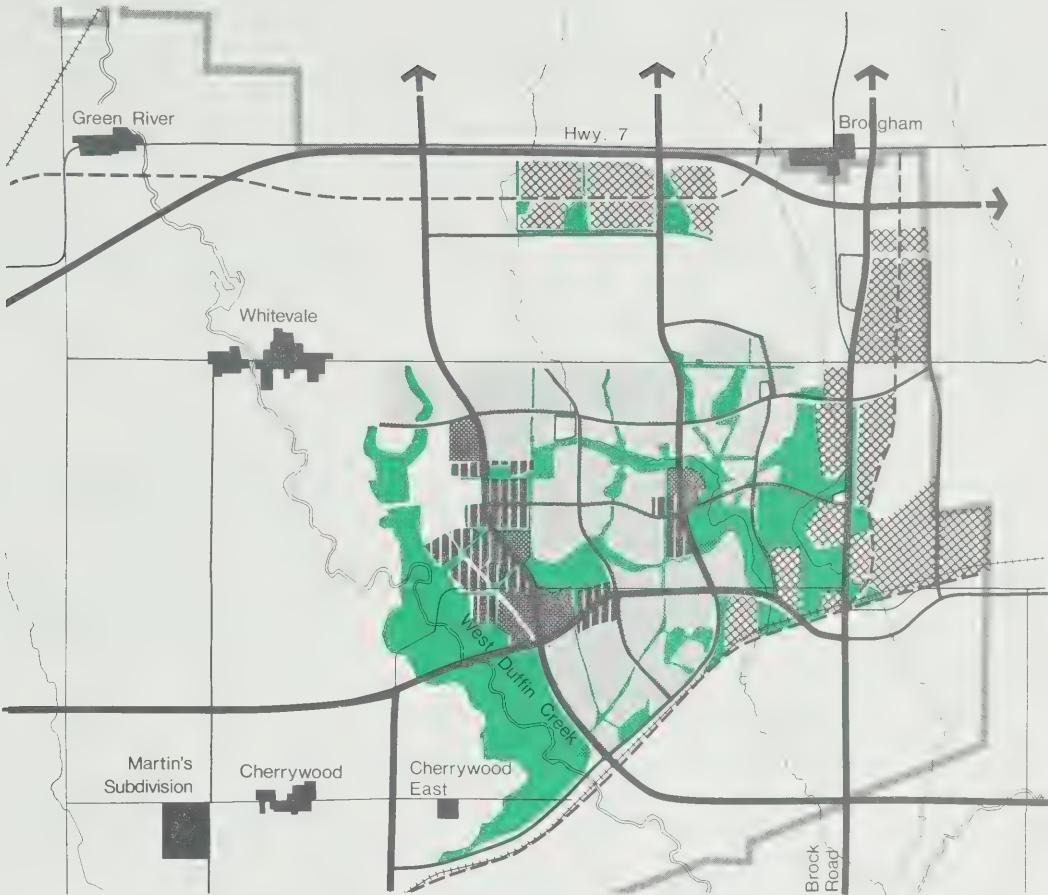
## Stage Four

In this stage the population of the urban community would reach the mature population level of 75,000 by the development of the housing areas north of Whitevale Road (5th Concession), structured around two secondary centres. The full range of housing types and tenure conditions would be achieved in this Stage. The higher density housing would be fully developed around the earlier secondary centres. The Central Area would reach full development with two department stores, a complete range of associated shops, institutional and entertainment uses, offices and high density housing.

The northern industrial area would become fully developed except for ongoing expansion of existing industry.



Urban Stage Three: Alternative 2



# Housing

## Population Trends

Without taking into account the possible effects of rising standards and expectations regarding housing, and solely based on demographic data, it would appear that Ontario will need, within the next few years, about 60,000 new dwellings annually. At the same time, the shifts in demographic patterns and the reduction in growth capacity within Metropolitan Toronto will shift this growth to the surrounding regions.

The steadily dropping birth rate must also be taken into account. Statistics Canada report that the Canadian birth rate, which has been dropping since 1959, reached a new low of 65 per 1,000 population in 1973. The fertility rate of women in Ontario from 1971 to 1973 has been below the level needed to sustain zero population growth.

This decline is all the more exaggerated because it follows a post-war baby boom. The combination of this post-war upsurge and the mid-sixties drop in birth has produced a population bulge which will affect social and economic circumstances as it moves through the implementation years of North Pickering's development. The bulge will particularly affect housing, social, and community services, child care, elementary, secondary and post-secondary education.

The children of the post-war baby boom are now entering the stage of family and household formation. They, largely, will be the citizens of North Pickering. They may marry later in life, delay their first child and space the fewer children they will have at wider intervals. However, because of the huge number of this household forming population, the rate of new family and non-family formations will preserve the growth phenomenon between 1971 and 1980 in the face of declining birth rates. The sheer size of the post-war generation will produce a tremendous number of children despite the shrinking birth rate.

## Household Type and Size

Housing policy for North Pickering is designed to attract people with a wide range of values, preferences and life styles. The new community will provide a diversity of residential environments, dwelling types, tenure conditions and housing costs. Nevertheless, housing must relate to demographic realities, existing and emerging. It must also match the employment characteristics of the community.

The household breakdown assumed for North Pickering is composed of 12% singles, 28% pairs, and 60% three or more person households.

## Household Income

Ability to afford housing, owned or rented, has been grouped in three categories:

- 1) *Upper Income*: those able to afford housing available on the private market and financed without assistance programs.
- 2) *Middle Income*: those able to pay the full costs of moderate standard housing with favourable mortgage terms and assistance programs such as land lease or lower land prices resulting from government land banking.
- 3) *Socially Assisted*: those requiring subsidies to bridge the gap between the full cost of housing and their ability to pay.

It is anticipated that in North Pickering approximately 35% will be able to afford upper income housing; 45% will be in the middle income category; and 20% will require socially assisted programs.

## Density

An overall density target of 33 dwelling units per hectare (13 d.u./acre) has been selected to assist in attracting a diverse population to the new community. This will give an average residential density of 105 persons per hectare (42 persons/acre).

There are sound reasons for establishing higher housing density. One is that higher densities utilize land more intensively which, in an urban context, can be considered an increasingly scarce resource. Another is economic: the community must pay its way.

A net density of less than 25 dwellings/hectare (10 dwellings /acre) virtually rules out apartment development. A density above 50 dwellings/hectare (20 dwellings/acre) virtually rules out detached and semi-detached houses.

On the other hand, there are limitations to which densities can realistically be increased. Beyond a certain point, the community would become less attractive for families with children who seek houses with yards. Furthermore, as densities rise the savings in land costs attributable to more intensive development are offset by higher building costs.

As densities rise, it becomes more difficult to save land. Increasing the density of housing requires a corresponding rise in school capacity, and the need for roads and parks. Said in another way, higher densities create the need for additional schools, roads and parks without any appreciable saving of land.

The overall distribution of residential densities proposed for North Pickering follows directly from the general approach to community design, structure and accessibility. There are very positive benefits provided by a high level of accessibility to community facilities and services, so that choice is max-



imized and convenience is not impaired. In this way, changes in the patterns of community life which inevitably will occur may be adequately accommodated. Therefore, it is clear that within the constraints of the density ranges proposed the maximum number of homes should be located as closely as possible to:

- a) at least one of the levels of community facilities and services they require, thus meeting the requirements of convenience.
- b) the transportation network and public transit system so that alternative levels of community facilities and services are readily accessible. This would meet the requirements of choice.

**High Density Areas — 100 Dwelling Units/Hectare (40 D.U./Acre)**

This residential environment would consist of 6 to 8 storey apartment blocks set in open space. Depending on location, the open space may be green and landscaped, or urban in character. The apartment blocks themselves may be totally integrated with retail and commercial facilities, if appropriate.

The high density areas are located immediately adjacent to the four secondary centres and the Central Area where they have the highest level of accessibility to community facilities and services, the transportation network and public transit.

**Medium Density Areas — 37 Dwelling Units/Hectare (15 D.U./Acre)**

These would consist mainly of town house complexes or small scale 3-storey walk-up apartments. The open space may be either green or urban in character, depending on location and opportunity but would tend to be human-scale and intimate in size.

These medium density areas would be distributed in two ways:

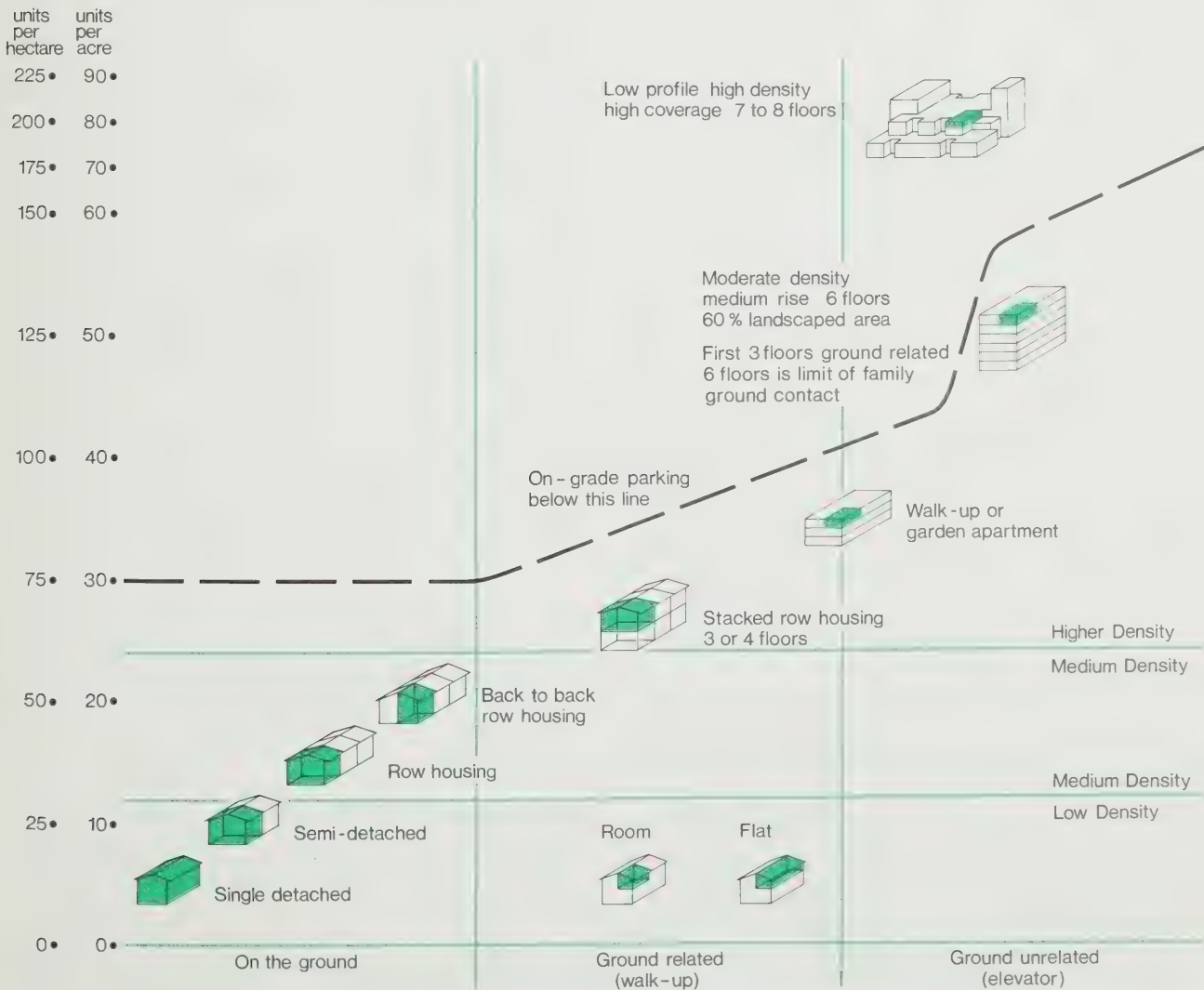
- a) In the form of an "outer ring" to the high density areas where they share locational advantages, though not to the same high degree.
- b) Adjacent to minor arterial roads which traditionally have been the focus of local community life. In recent times, these areas have been jeopardized by disruptive traffic volumes. With good planning these vital areas can be reinstituted.

**Low Density Areas — 20 Dwelling Units/Hectare (8 D.U./Acre)**

Single-family housing would be the predominant residential type in these areas and since they would consist of family, auto oriented households, they have the opposite locational characteristics to high density areas.

Direct accessibility to the Central Area and secondary cen-

**Housing Form Related to Density**



tres is low relative to other density types, but the trade-off is spaciousness about the home and good access to areas of natural environment. Local services and facilities are conveniently located, but the level of choice is not high.

**Mixed Low/Medium Density Areas — 25-30 Dwelling Units/Hectare (10-12 D.U./Acre)**

The inclusion of these mixed areas is intended to accommodate the possibility that residential preferences and density mix will change over time.

The mixed areas would be located along minor arterial streets. Although not directly associated with either secondary centres or the Central Area, access to these areas could reasonably be met.

**Special Housing**

To meet the needs of the elderly and to attract them to a new community, particular attention to their requirements is necessary. Provision would have to be made for nursing homes, homes for the aged and outreach services for those living in their own homes.

Emphasis should be placed on ensuring that housing intended specifically for the elderly be closely related to secondary centres and the Central Area to facilitate their involvement in the wider community life. It would also be necessary to design and equip housing for the elderly and the handicapped with features that would assist these residents in their every day activities.



# Social Programs

The residents of the new community will require a broad range of social programs and facilities. The plan strives to provide a comprehensive social program for members of the community of all ages. Where appropriate, the programs and facilities will be linked to enhance the effective use of physical, financial and human resources.

Careful consideration has been given to specialized resources for those with particular requirements such as the handicapped, the elderly, disabled and children with special problems.

The plan strives to ensure variety, choice, access and opportunities for social enrichment, and emphasizes the ability of residents and members of the community to participate in ongoing planning.

Citizen participation is receiving increasing acceptance, reflected in the growing role of public input into the planning, development and delivery of social programs. To increase the availability of services and facilities, the plan attempts to decentralize social service delivery and to increase the degree of public involvement, co-operation and integration between them.

Consideration has been given in planning of educational facilities to the requirements for different types of schools and to the fact that there is a growing demand for formal lifelong learning opportunities. Facilities will be conveniently located to accommodate adult education, general education, special education and private programs.

## **Elementary Schools**

Wherever possible, elementary schools will be located so they are easily and safely accessible to children, and convenient for community uses. Generally, they would be accessible without crossing major roads.

## **Secondary Schools**

Secondary schools would draw on larger areas of the community and, therefore, would require good access by public and private transport. Because secondary schools afford many opportunities for community-wide use, they would be located within secondary centres and the Central Area.

## **Community College**

A satellite campus of Durham College of Applied Arts and Technology is proposed near the Central Area. In addition to its academic programs, the College could provide and sponsor a wide range of cultural, recreational and social activities.

## **Child Care Programs**

Full day care, part day care, after-school programs and programs for children with special needs would be provided

in scattered, smaller centres. It is expected that some of them would integrate a number of programs, while others would specialize. In addition to day care centres, a private home day care program could be developed if the need arises.

## **Other Facilities**

From the outset, a community information centre would provide facts on social resources and facilities. Community libraries, with links to others including the regional library system, should generate a range of programs. The main library and the community information centre would require central locations. Branch libraries are planned for two secondary centres.

## **Recreation Programs and Facilities**

Residents will need a broad range of options for recreation and leisure. These can be provided through community programs and facilities, as well as through school, church, health, library and day care programs. Public and private open space and private recreation and entertainment activities will increase choices and options.

Space and facilities for recreation should be based primarily on the emerging character of the community. At this time, emphasis is placed on allocating sufficient space to allow for flexibility and to ensure some basic programs at the outset.

## **Churches**

The new community will require opportunities for religious worship, congregational activities, religious education, spiritual guidance and counselling.

Approximate locations of church sites have been determined, including common facilities at which different churches would share resources. They would be located within secondary centres and the Central Area. Individual church sites would be required in these centres and adjacent to major roads within the community.

## **Health Care**

Health care should be highly accessible. Services should be co-ordinated and range from home-based to specialized care.

Medical and allied services would be provided in community health clinics located in secondary centres and the Central Area. Each would include a number of full-time or part-time general medical practitioners and specialists.

The hospital would deal primarily with specialized needs and provide laboratory, radiology and ambulance services. The hospital and the public health office would be in the Central Area.

### **Legal and Protective Services**

A police station, three provincial courts, probation and legal aid offices would be located in the Central Area. While they may be close to one another, they should retain separate identities. Storefront police stations, located in secondary centres, would provide convenient access to the public.

### **Child and Family Services**

Important elements are the child welfare services provided by Family and Children's Services or the Children's Aid Society and the family counselling service of the Regional Durham Social Services Department. The former should be based in the Central Area, while arrangements may be made for offering some services in secondary centres.

Family counselling offices should be located in some secondary centres along with other social services.



# The Rural Plan

## The Agricultural Community

The basic objective for the agricultural community is to encourage long term agriculture on the highly productive soils on the western portion of the site.

Approximately 4,200 hectares (10,400 acres) have been classified as good agricultural land. Seventy per cent of the land within the area west of the West Duffin Creek is designated as a prime agricultural area. This will be retained in long term agricultural production. These publicly-owned lands will be managed by the Province under a long term farm lease program. The program was devised by the Ministry of Housing and the Ministry of Agriculture and Food in collaboration with local farmers.

### Planning Proposals and Definitions

In order to maximize the productive use of the soil, and to encourage a diversity of agricultural practices, the plan recommends that the agricultural community be structured into two categories:

- Agricultural Area 1
- Agricultural Area 2

#### Agricultural Area 1

Agricultural Area 1 consists of lands, people and institutions primarily devoted to and supportive of agricultural production as a full-time livelihood. There are potentially 40 large farm units within Agricultural Area 1.

In this area, livestock, poultry, and crop production would be encouraged where these are related to large acreage farm units. Commercial market gardening, sod farming and the growing of trees and small fruits would also be allowed.

To reinforce long term diversified farming, the leasing of

non-farm residences by the Province would be subject to the Agricultural Code of Practice. Lease terms would indicate that they are designated as integral parts of the agricultural area.

Existing services and institutions which are presently located within or adjacent to hamlets are consistent with the agricultural community's needs, and should be encouraged to continue.

Emphasis should be placed on maintaining and developing a road system that meets the needs of the agricultural community and, at the same time, minimize their use for through traffic.

Some natural areas within the area would be conserved and made available for low intensity recreation. Access to these areas should be limited to avoid intrusion on agricultural operations.

#### Agricultural Area 2

Agricultural Area 2 would provide for a diversification of both agricultural and recreational uses. Although this area will not be urbanized, it should accommodate roads and services for the urban area.

Land uses similar to Agricultural Area 1 would be encouraged in Area 2, especially where they presently exist. Other smaller acreage agricultural uses should be allowed such as greenhouse operations, nurseries, orchards, riding stables, market gardens and public allotment gardens.

Priority in Area 2 should be given to diversified full-time agricultural operations, although qualified approval would be given to part-time farming, agriculture-related industry, recreation facilities, social institutions and existing residences. Where appropriate, allotment gardens for urban and rural residents would be located in buffer zones around hamlets.

# Hamlets

The approach to planning announced in January, 1974 exempted from expropriation the hamlets of Locust Hill, Whitevale, Cherrywood as well as Martin's Subdivision. It was also stated that other hamlets could be excluded from expropriation. Subsequently, expropriation of Cherrywood East and Green River was abandoned.

The role of these hamlets should be determined in collaboration with their residents. Each hamlet's function can be related as desired, to the agricultural area, the urban area, or both. This should apply also to the social community of Cedar Grove.

Public meetings have been held with individuals and groups living within the hamlets or adjacent to them. As a result of these meetings, a range of concerns were isolated. These related to questions dealing with water supply, existing and proposed roads and transportation corridors, the historic importance and future role of the hamlets, and the continuation of public and commercial institutions now located within the hamlets.

## Planning Principles

The following principles are recommended for future plan-

ning related to hamlets. They should apply to all, although it is recognized that there will be variations responding to each individual settlement.

Where economically feasible and desirable, public services such as sidewalks, curbs, shade trees and drainage ditches should be provided if they are found to be appropriate to the scale of the hamlet.

All existing roads and public road allowances within the hamlets should be retained and their use as traffic arterials should be restricted.

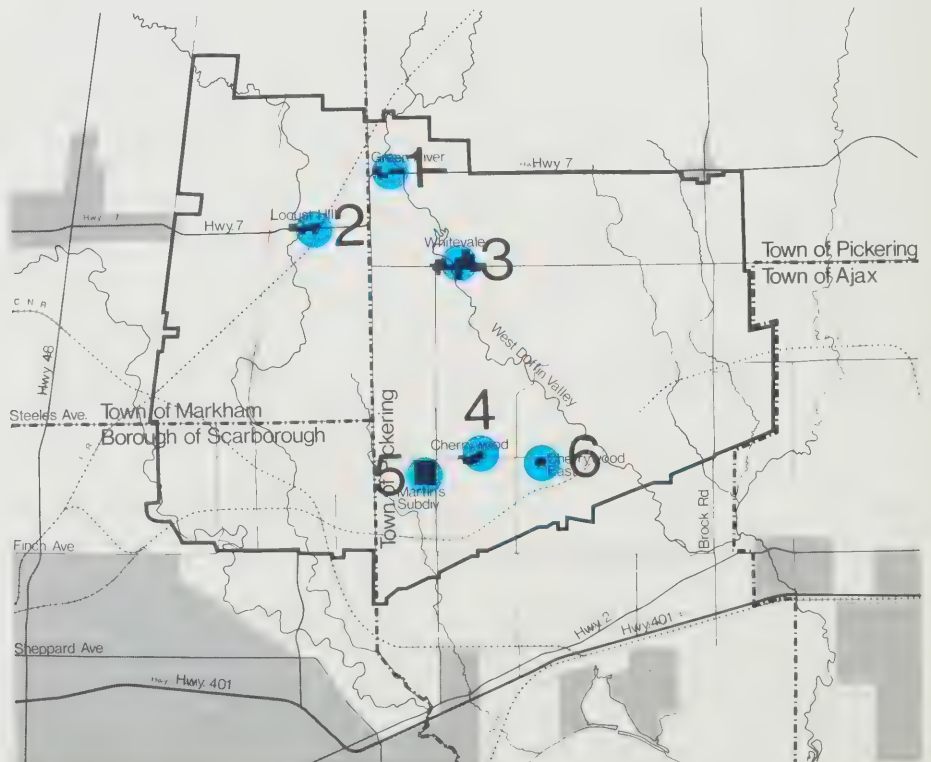
Where new housing is planned within a hamlet, its form and setting should be appropriate to the historic features of the hamlet. All new lots and roads should be consistent in size with existing lots and roads, and the form of subdivision should not interfere with adjacent agricultural uses.

Existing public institutions within the hamlets, including churches, schools, libraries, cemeteries, post offices and meeting halls should be retained and upgraded where necessary, to fulfill present or anticipated needs.

Sufficient public open-space should be provided within or adjacent to a hamlet to provide adequate recreational facilities for its residents.

## Location of Hamlets

- 1 Green River
- 2 Locust Hill
- 3 Whitevale
- 4 Cherrywood
- 5 Martin's Subdivision
- 6 Cherrywood East





# Conclusion

With the preparation of the Recommended Plan and its presentation to the North Pickering Development Corporation, the North Pickering Project Team has completed its task. The recommendations and the substantial research and background study which support them will provide the foundation for the Plan for Development which the Corporation will prepare.

The Corporation's Plan for Development subsequently will be translated into Official Plan Amendments for proposal to affected municipalities under procedures of the Ontario Planning Act.









Ministry of Housing  
Hon. Donald R. Irvine, Minister  
Donald Crosbie, Deputy Minister

Ontario